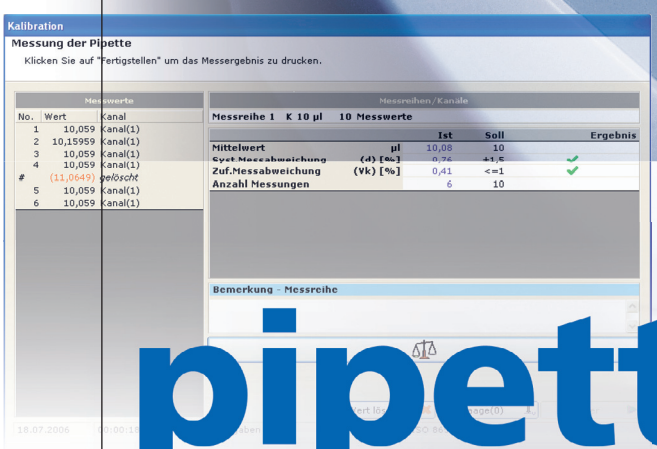
User Manual



pipetto®

The calibration software
for your pipettes and dispensing systems

ITPEAK® Networks

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Table of contents

1 WHAT IS PIPETTO? 5

1.1 Which standards are applied? 5

1.2 What is the calibration process? 6

1.2.1 What is the process workflow cycle? 7

1.2.2 Which mathematical procedure is used? 8

1.3 What is PCOM? 8

1.4 Instructions for using the PCom Klima Box 10

1.5 With which balances does Pipetto work? 12

1.5.1 Single-channel balances 12

2 HOW DO YOU START PIPETTO? 13

3 WHAT IS THE STRUCTURE OF PIPETTO? 15

3.1 How are the menu bars structured? 16

3.1.1 File 16

3.1.2 Desktop 17

3.1.3 View 18

3.1.4 Expand/reduce Group 20

3.1.5 Extras 20

3.1.6 Window 20

3.1.7 ? online-help 21

3.1.8 The toolbar 21

3.2 How is the workdesk bar structured? 22

3.3 What is the basic structure of a form? 23

3.4 How does the search tree work? 24

3.5 What are the functions for data selection? 25

3.5.1 The group box 26

3.5.2 Color settings 26

3.6 How does the search function work? 30

4 WHAT HAPPENS DURING CALIBRATION? 31

4.1 How will the calibration be carried out with a pipette which already exists? 34

4.2 How will the calibration be carried out with a new pipette? 35

4.2.1 Location is already created? 36

4.2.2 Location has not yet been created? 37
4.3 What are the preparations for calibration? 38
4.3.1 The environment area 39
4.3.2 The Testing Standard area 40
4.3.3 The pre-measurement 40
4.3.4 How is calibration of the pipette carried out? 42
5 WHAT IS THE INVENTORY LIST? 45
5.1 How is a new pipette created? 46
5.2 The Device tab 46
5.3 The Details tab 47
5.4 The Contact person tab 48
5.5 The Protocol tab 50
5.6 The Test plan tab 50
5.7 The Note tab 52
6 WHAT IS THE WORK LIST? 53
7 WHAT ARE MEASUREMENT REPORTS? 54
8 WHAT ARE LOCATIONS? 56
8.1 The General tab 57
8.2 The Memo tab 58
8.3 The Communication tab 58
8.4 The Contact person tab 59
9 WHAT ARE TEST PLANS? 60
9.1 The Test plan tab 60
9.2 The Measurement series tab 61
9.3 How is a new test plan created? 61
10 WHAT SETTINGS CAN BE MADE? 64
10.1 What is the structure of user management? 64
10.2 What are the general settings? 65
10.2.1 Language 66
10.2.2 Database update 66
10.2.3 Decimal places 67
10.2.4 Logos/Addresses 68
10.2.5 Environment settings 69
10.2.6 Balance 69

11 WHAT IS A MANDATOR? 72
12 WHAT IS THE Z FACTOR? 73
13 HOW CAN YOU WORK WITH BAR CODES? 74
14 ANNEX A 75

1 What is Pipetto?

Pipetto is a software application for testing and calibrating pipettes. It involves testing the volume of a pipette for compliance with the product-specific tolerances.

A volume/weight method is used here as the measurement procedure. Under known physical conditions (temperature, humididy, barometric pressure), a fluid (generally destilled water), the specific weight and density of which is known, is pipetted into a container on a precision balance. Using the weight measured, the pipetted volume can be calculated and thus the accuracy and correctness of the pipette tested. In order to carry out a statistical evaluation and to exclude handling errors, this measurement is repeated several times. The measured values and calculations are presented in a measurement and calibration protocol.

1.1 Which standards are applied?

The exact methods are described in various standards. Essentially Pipetto relates to the Standard EN ISO 8655-2:2002. Part 1 and the apparatus described in Parts 2 to 5 are taken into particular consideration.

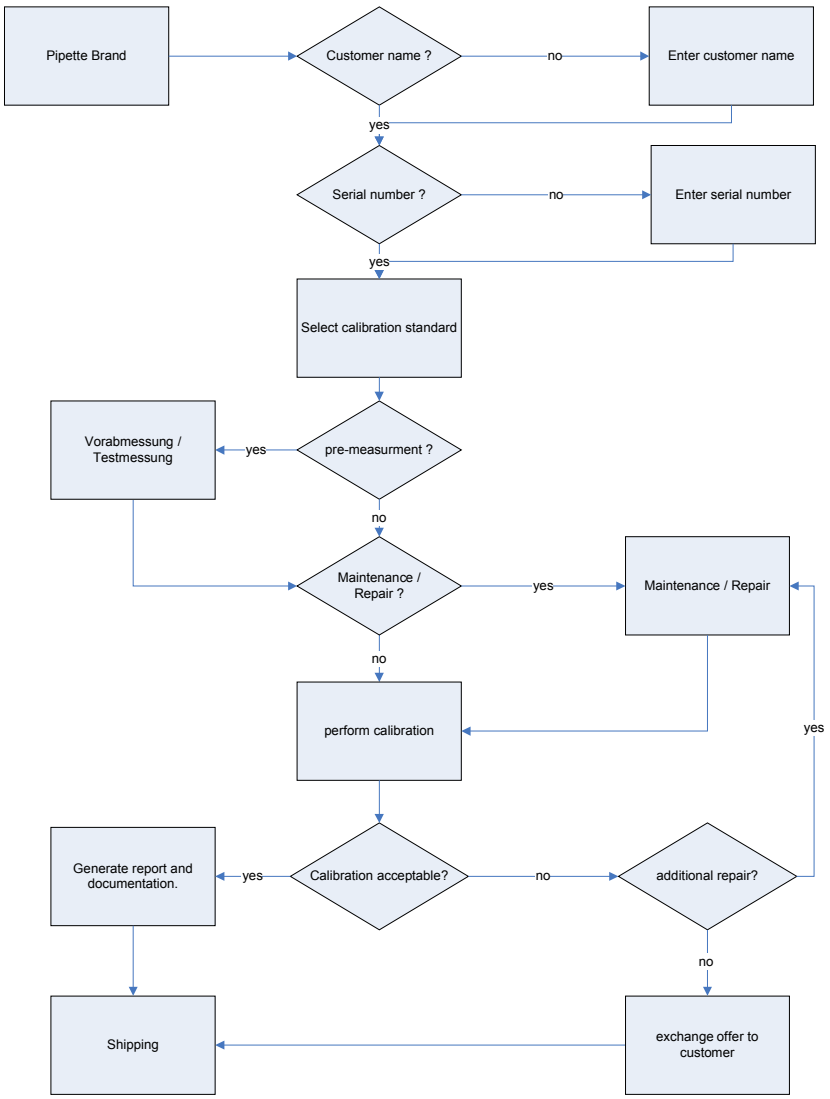
It is assumed here that products from all manufacturers conforming with this Standard or which are covered by it can, in principle, be calibrated. Pipetto supports user tests according to EN ISO 8655-2:200, Section 7, Para. 2. The relevant supplementary Standards in conjunction with this Standard, in particular for electrical/electronic measuring instruments (IEC 6101-1), will not be mentioned again below, but are considered as part of Pipetto. Furthermore, Pipetto is based on the Standard ISO 3696 (1995 publication/basis 1987) as regards the reference fluid to use. The gravimetric determination of errors of measurement in accordance with EN ISO 8655 Part 6 is used as the measurement procedure.

1.2 What is the calibration process?

The calibration process can be subdivided into two main components:

- the **process workflow cycle**
- the **mathematical procedure** used and calculations

The following diagram provides an overview of the main workflow of a calibration process.



1.2.1 What is the process workflow cycle?

The process workflow cycle provides the following measurements:

- Input measurement (mandatory only once per procedure)
- Pre-measurement (can be repeated as required/is not mandatory)
- Calibration measurement (only once per procedure/only mandatory if the input measurement is negative, i.e. after maintenance/repair)

The input measurement and the calibration (or output measurement) are identical in terms of definition and workflow. The input measurement presents the current situation as found by the originator when sending in the pipette. If the result of the input test is within the specified tolerances, the procedure can be completed without any further action (input calibration successful).

Further steps in the form of maintenance or repairs are only required in the event that the threshold values are not complied with in the input test.
The pre-measurement is used by the user to control whether the measures taken (maintenance/repair) were successful. It does not represent an "official" measurement recording but is saved and printed on the report. This measurement recording does not satisfy any official requirements or the provisions in FDA Chapter 21 Part 11. The calibration (or output measurement) is only mandatory as it regards the program if the input measurement was outside the specified tolerances, e. g. after repairs. Calibration cannot be repeated under the same procedure number. To repeat calibration, the entire cycle (input measurement through to output measurement) must be repeated under a new procedure number. The software stores each calibration procedure separately, using serial number, measurement values, the date/time and the calibrator (user of the calibration software).

1.2.2 Which mathematical procedure is used?

The method applied for the volume test concerns the gravimetric method. This means that a specific volume of fluid is pipetted onto a balance and the weight of the metered fluid measured. Via the conversion below, the known environmental constants and the known fluid constants enable the volume to be calculated.

The calculations and methods upon which this procedure is based are taken from the "Guide for volume determination for reference measurement procedures in medical reference laboratories" which was published by the Deutsche Kalibrierdienst (DKD, German calibration service).

1.3 What is PCOM?

The Peak Climate Online Monitor is a hardware unit for recording environmental conditions which are required during calibration to convert the gravimetric data. This data is:

- Temperature
- Barometric pressure
- Humidity

The requirements for the accuracy of this data can be found in Standard EN / ISO 8655. Data input can generally be carried out offline too, e.g. by reading off a measuring device and entering the data at the start of calibration. However, this procedure does not comply with FDA requirements Chapter 21, Part 11 as regards the ability to manipulate data and is therefore actually not permitted according to FDA.

PCOM is connected directly to the calibration computer (the workstation) via a USB connection and, automatically, supplies the environmental conditions online to the calibration computer when the calibration measurement is taken.

Note: Please allow PCOM to stabilize 15 minutes before you start the first calibration of the day.

Technical data:

Operational voltage:	8 to 24V DC
Inverse-polarity protection:	Yes
Overvoltage protection:	Yes, 33V
Operational display:	Yes, green LED
Measuring channels:	3
Update:	1/s (internal), upon request (external)
Response time:	max. 1 min without condensation
Temperature Range.:	0 to 85°C
Resolution:	0.1K
Accuracy:	+/- 0.5K (at 25°C)
Stability:	<1%/year
Humidity range:	10 to 90% relative, compensated
Resolution:	1% RH
Accuracy:	+/- 3.5% (at 20 < %RH < 80)
Stability:	<1%/year
Barometric Pressure Range:	200 to 1050 hPa
Resolution:	1 hPa
Accuracy:	+/- 1.8% (at 0 to 85°C)
Stability:	No data
Interfaces:	2, RS232 and USB alternative
Connections:	USB, Type B, USBDM, USBDP, GND, Shild, Vusb Rs232 with SUB-D9 connector,TxD, RxD, GND,Shild
Housing:	Polystyrene, grey, stepped, 100 x 54 x 30 mm
Degree of protection:	IP20
Operating temperature:	0 to +85°C without condensation

1.4 Instructions for using the PCom Klima Box

- Do not attempt to dismantle or repair your PCOM hardware yourself. All repairs must be carried out by qualified specialists.

- Ensure your PCOM hardware does not come into contact with rain or other liquids and that it is installed such a way that it is protected from sand, dust, sunlight, extreme heat and cold. This can influence the measurement result. The device must be placed within 25 to 30 cm around the actual measuring point.

- Strong chemicals and aggressive cleaning agents must be avoided when cleaning your PCOM hardware. We recommend wiping the surface with a dry cloth. The connector on the USB connection cable must be disconnected from the mains before cleaning.

- Install your PCOM hardware in a place which is not accessible to children. Avoid shaking and dropping the device or knocking it against other objects. Careless handling can cause damage to the body and/or internal electronic parts.

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CE

certifies that the

PCOM Klima Box – IPEH-003029

devices comply with the directives of the European Council on the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.

This declaration is based on the fact that the product complies with the following standards:

Tested in accordance with the product family standard

EN 61326:2002-03: EMC requirements – Electrical equipment for measurement, control and laboratory use

Warranty

For this product IT-PEAK-Networks GmbH provides a warranty of 2 years from the date of shipment on manufacturing and material faults if the product was used under normal and appropriate conditions.

IT-PEAK Networks GmbH reserves the right to either repair or replace the product, but this does not extend the original warranty period.

The warranty is not valid if the product was used incorrectly, was damaged, repaired without authorization or modified. A DKD (German Calibrating Agency) calibrated device by the customer which needs replacing during the warranty period can only be replaced with a non-DKD-calibrated device. IT-PEAK-Networks GmbH, however, undertakes to supply all replacement devices with a new factory calibration.

1.5 With which balances does Pipetto work?

In general Pipetto runs with balances made by various manufacturers. The minimum requirements of balances vary, for example, towards the required accuracy of volume measurement results, which may be different depending on the pipette/dispenser. This generally enables the appropriate formula to be recalculated taking into account the error integral. The balance connection can be adjusted in the user interface in order to be able to connect the software quickly and easily to new types of balances in the future.

1.5.1 Single-channel balances

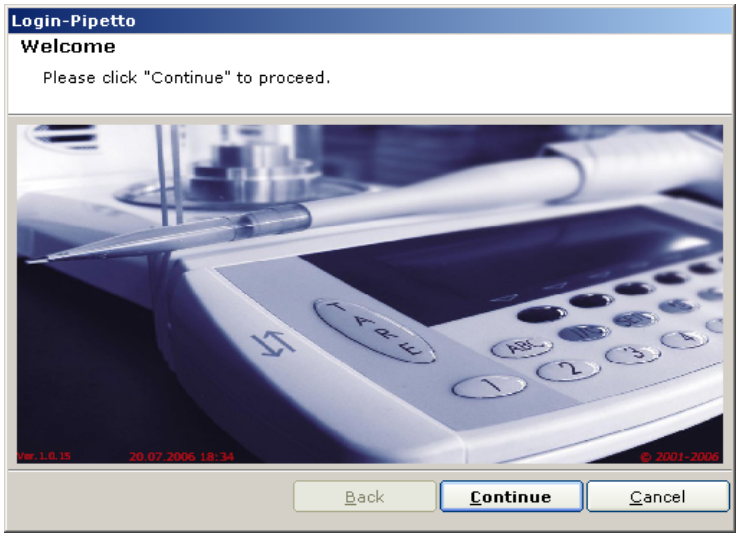
This balances are balances which can record just one measurement value at any time. The balances must have a serial data connection in the form of a RS232 standard interface or a USB data interface and the data transfer protocol must be known. The balances should enable bi–directional communication if possible. This means that it should be possible to tare (reset/offset) the balance remotely via a command from the workstation. Additional commands (e.g. open/close door) are supported where possible but are not essential.

2 How do you start Pipetto?

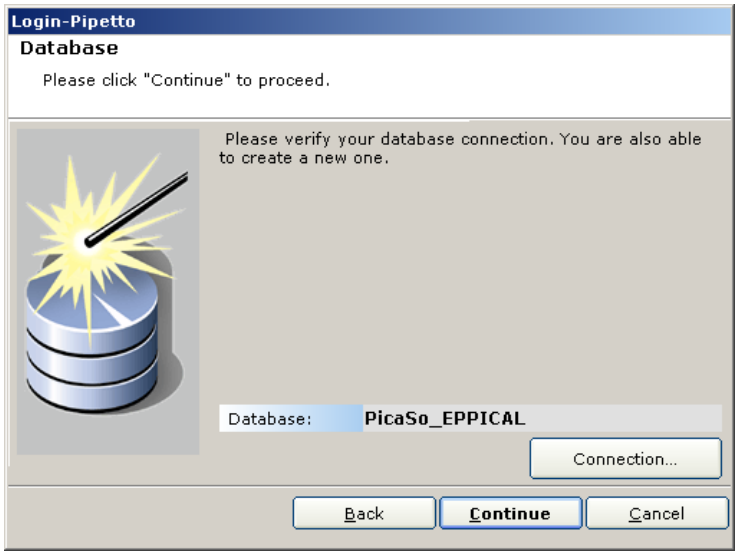
Start → (All)Programs → Peak-Networks → Pipetto → Pipetto

Or start Pipetto by clicking on the button

on your Windows desktop



The following window appears. Confirm this dialogue box by clicking on the Continue button.



Enter the database name which you assigned during installation in the database field.
After a standard installation, according to the User Manual, Pipetto should be entered here.
Confirm this dialogue box by clicking on the Continue button.

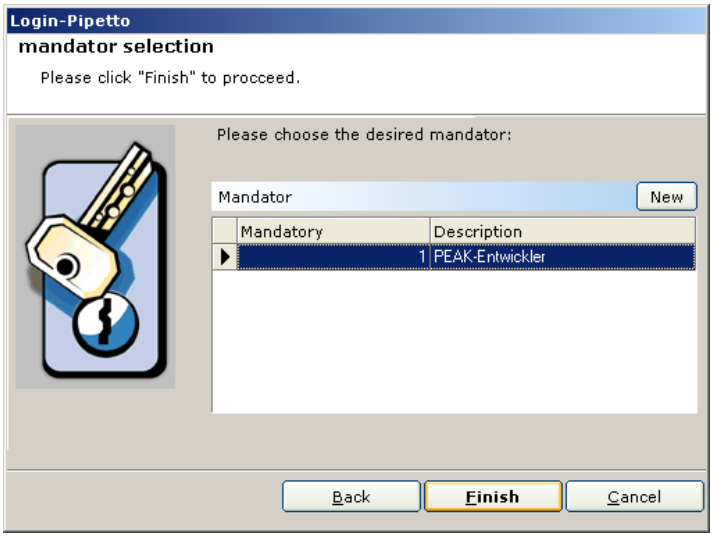
The Connection... button opens the database selection menu. You can find further information on this in the installation manual (Section 3. Installing software).

Enter your User name and your Password here.

The first time you start Pipetto, the user name is Admin and there is no password.

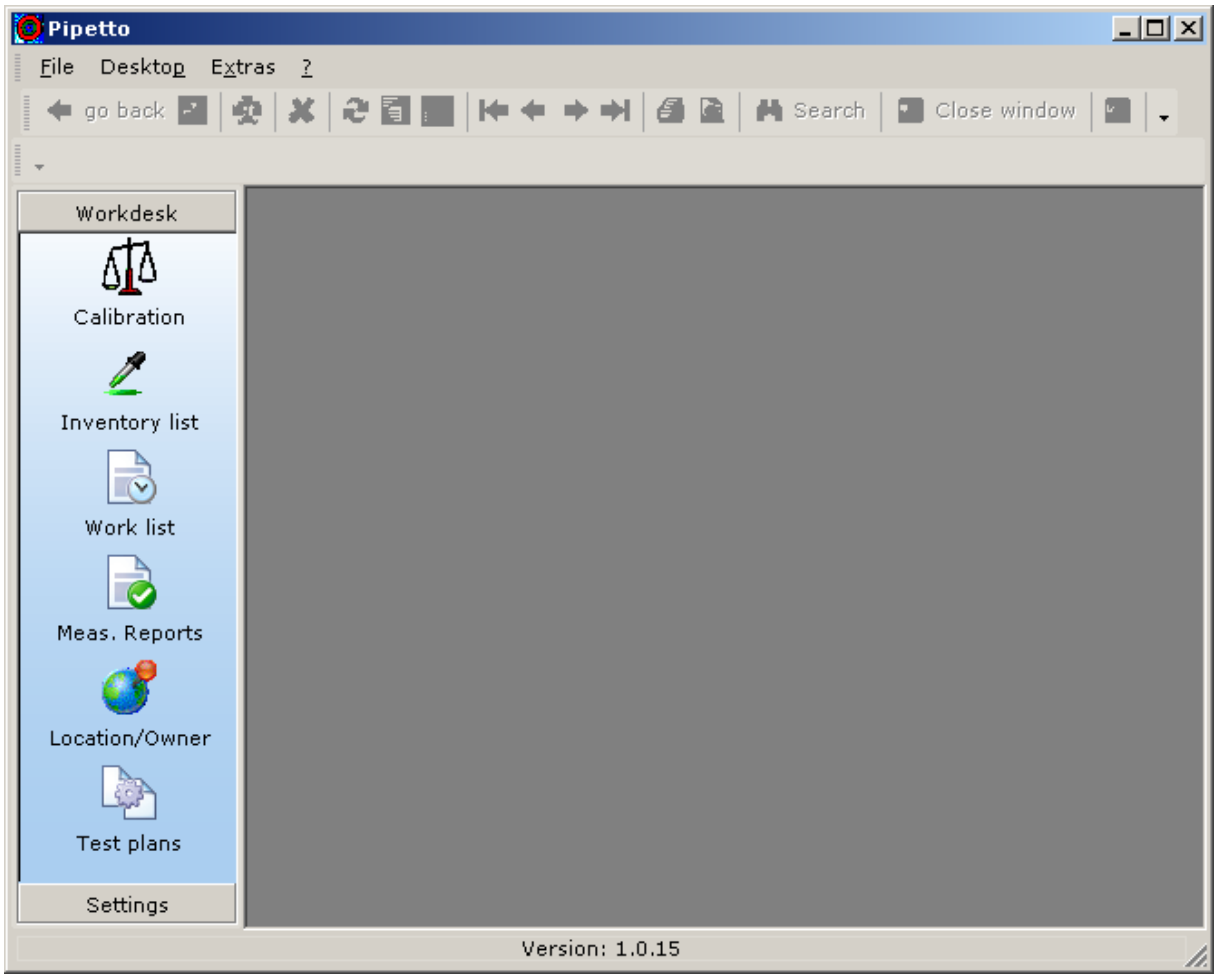
Confirm this dialogue box by clicking on the **Continue** button.

Choose your mandator by clicking on it and confirm your selection by clicking on the **Finish** button. Pipetto will open in the workdesk view.



3 What is the structure of Pipetto?

After starting Pipetto you will be taken directly to the workdesk.



The workdesk is divided into two main areas. These are the menu bars and the navigation menu.

3.1 How are the menu bars structured?

3.1.1 File

Note: Most entries in this menu are only available for specific Pipetto forms.

New.. Creates a new entry for the list currently displayed. You must create the appropriate information for the new entry.

Delete Shortcut key: Ctrl-Delete/toolbar symbol:
Deletes the selected entry from the list displayed.

Note: If you delete a location, all associated pipettes will also be removed from the database.

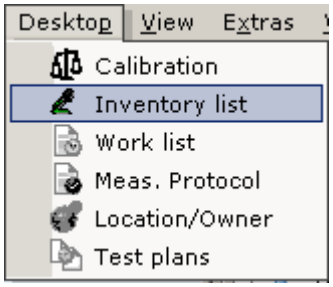
Page view Toolbar symbol:
Displays a dialogue box in which you can determine which printer you wish to use, whether a preview is to appear on the screen before printing or whether the print output should be in an alternative format (HTML or PDF).

Print Toolbar symbol:
Prints the report corresponding to the item currently displayed on the printer. No confirmation or option dialogue is displayed before printing; printing starts immediately. If you wish to use a printer other than the Windows default printer, or you want to see a print

	preview before printing, please use the Page view menu item.
Close	Toolbar symbol: Closes the form currently displayed on the Pipetto workdesk. Changes to the form fields are saved automatically. You can open a form at any time again using the Desktop menu.
End	Ends the Pipetto programme. You are asked to confirm before ending.

3.1.2 Desktop

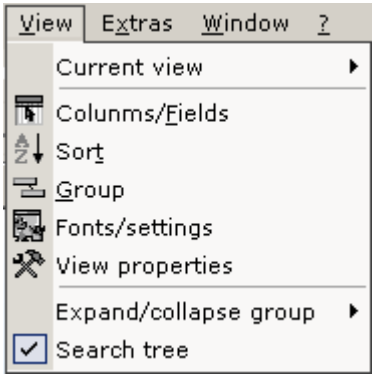
Here you can open the forms provided in the Pipetto workdesk as menu items or show the relevant form if it is already open. The Calibration menu item is the exception as a separate dialogue box is opened for calibration.



Please see the relevant sections for more detailed information on the individual menu items.

3.1.3 View

The View menu refers to the overview of entries in the form currently displayed on the Pipetto workdesk. You can customize the view for each form regardless of the other forms.



Current view Entries can be displayed line-by-line in a list or in adjacent tabs.

Columns/Fields Opens a dialogue box in which you can determine which fields are shown in which lines or tabs and in which order these appear. Use the Reset button to restore the default configuration.

Sort With the dialogue box which opens you can specify how the list will be sorted according to entries in specific fields. Up to four fields can be used for sorting.

Note: You can also sort a list quickly by clicking on the relevant column header. Clicking on the same column header again will reverse the sort sequence.
Note that with this option you can only sort according to one column and the detailed settings in the "Sort" dialogue box will be overwritten.

Group You can group list entries in order to arrange a list more clearly. In the dialogue box which opens you can determine which fields are to be grouped. Groups can be folded up in list view to save space.

Note: You can group within a list quickly by dragging a field name into the group box. The group box can be displayed by clicking on the symbol in the toolbar.

Fonts/settings You can change the appearance of tables or tabs regarding the fonts used and the colors.

View characteristics

The selection of settings already mentioned above is grouped in this open dialogue box. You can also make other adaptations.

Example: List entries or tabs can be displayed as highlighted depending on a specific condition which the field content must fulfill. You can determine the conditions and type of highlighting in the dialogue box which opens.
See also Section 3.5.2 Color settings

Advanced → Display data set

If this option is activated the data set number of the selected entry is shown below the table. All the data sets displayed are numbered. By entering a number (+ the Enter key) you can jump directly to the desired data set or entry.

3.1.4 Expand/reduce Group

Update group If you have made changes to the groups, but these changes do not satisfy you, you can return to the last saved group settings using this menu command.

Expand all levels

The data sets for all groups will be displayed.

Reduce all levels

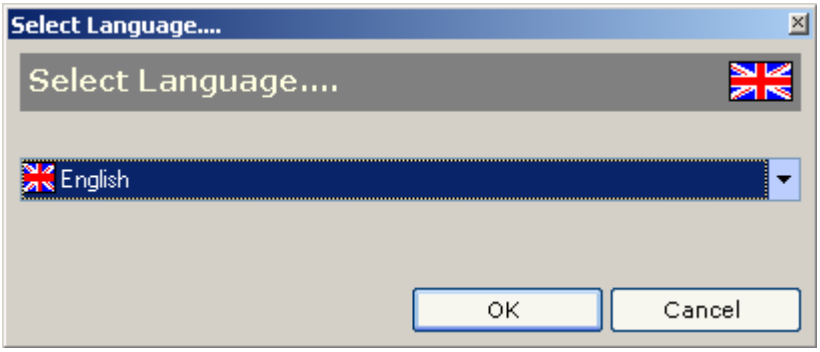
All groups are folded up in list view. Only the title lines of the main groups are still displayed.

Show/Hide search tree

In a list form you can hide the search tree on the left-hand side to create more space for the list view. Vice-versa, the search tree can be shown again using the same menu command.

3.1.5 Extras

Here you can select the language for Pipetto.



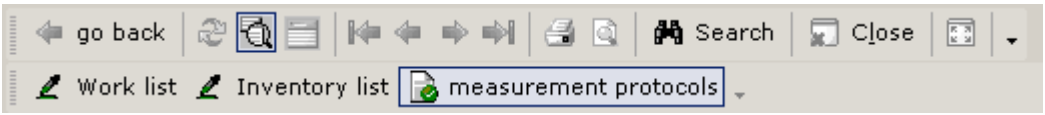
3.1.6 Window

In order to obtain an overview of all forms open on the Pipetto workdesk, you can arrange it in different ways using the menu items. Furthermore, every open form is listed in this menu and can be brought to the front.

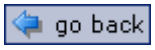
3.1.7 ? online-help

Opens the Pipetto online-help.

3.1.8 The toolbar



Depending on which form you have opened, different buttons are displayed. The toolbar contains the following buttons, from left to right:



Jump to the previous form

Calibrate pipette.

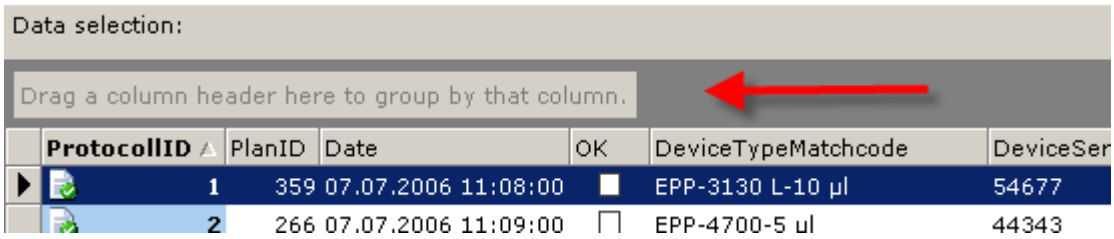
Create a new data set

Delete a data set

Updates the view

Show/hide comments

Activate/deactivate the group field for data selection



Data set navigation: to the first entry - back – forward – to the last entry

Print

Page view

Calls up the search function. You can find information about searching in the Search function section.

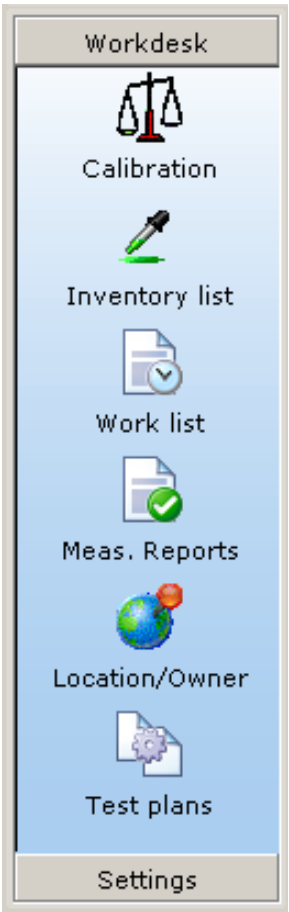
Closes the form currently open

Full screen view of a form

In the second row of the toolbar all the open forms are listed for faster navigation. By clicking on a form name, the form opens or is brought to the front.

3.2 How is the workdesk bar structured?

Via the workdesk you can call up forms, or place them at the front if they are already open, by double-clicking on them.



Calibration: Opens the form to record data for a pipette calibration.

Inventory list: Displays a list of all the pipettes registered in your database.

Work list: Lists all the pipettes for which a test or calibration is pending.

Measurement protocol: Displays all the tests and calibrations recorded with Pipetto.

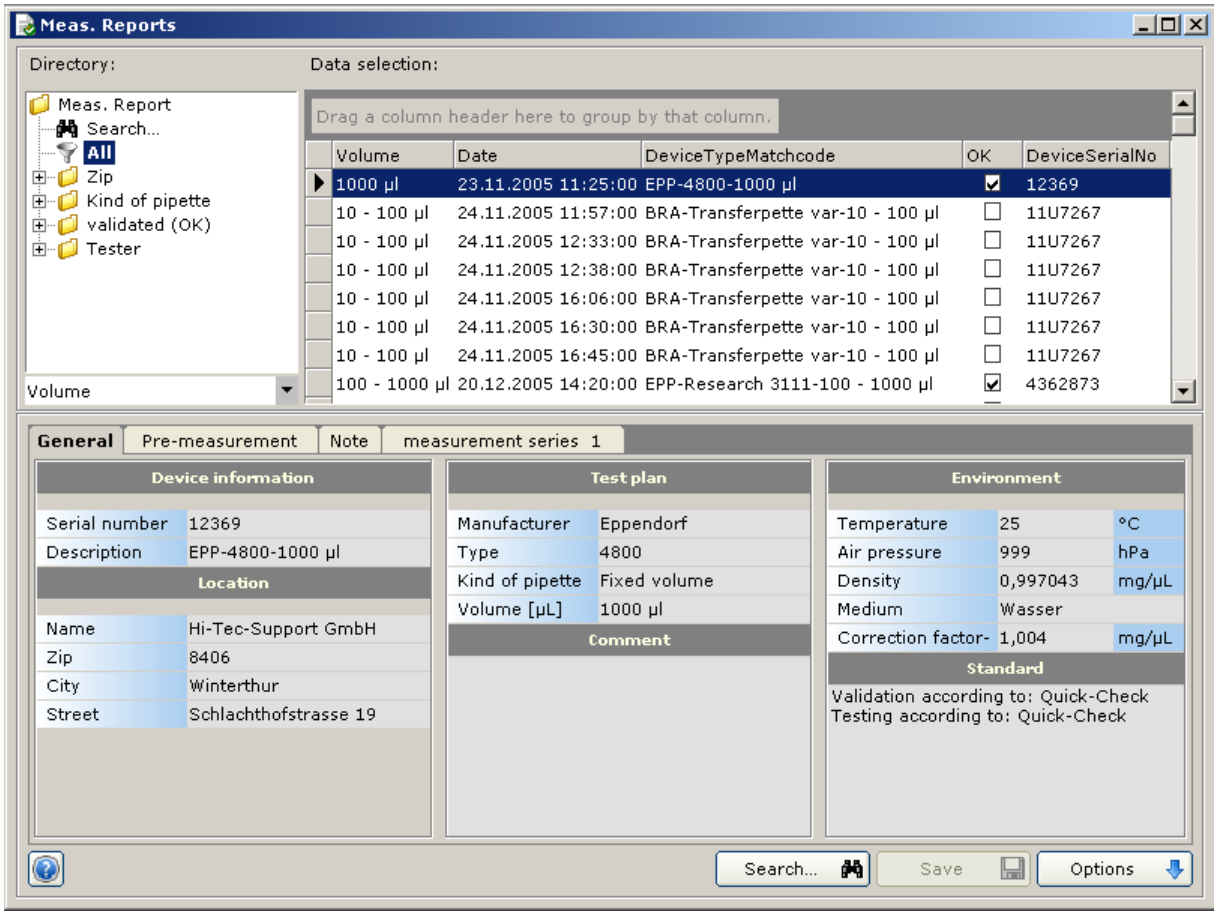
Location/Owner: Displays all the locations/owners of pipettes stored in your database.

Test plans: Manages the test plans for various pipette brands.

3.3 What is the basic structure of a form?

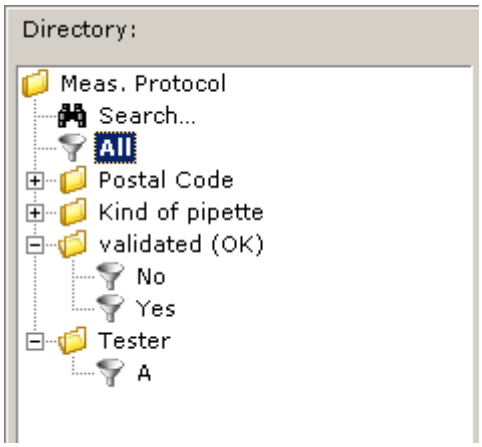
In general, each form is divided, except calibration, into three areas:

- The search tree with predefined searches is located at the top left.
- The data selection window in which the search results for a search are displayed is located at the top right.
- Detailed information on the data set highlighted in the data selection window is shown in the lower area.



3.4 How does the search tree work?

A search tree with predefined search functionalities is available in each of the individual forms. Depending on which form you are in, the searches may vary.



The following functions are available:

- Update search tree
- Search → Start search function
- All

The other predefined searches vary in the individual forms.

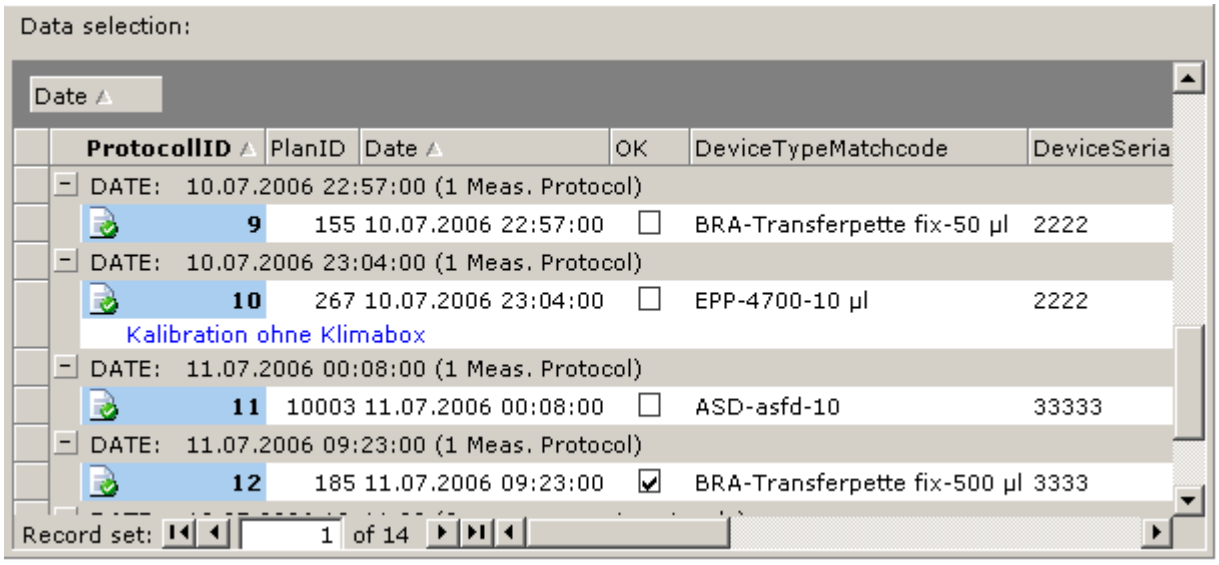
In order to use a predefined search, double click on the search you require. Your search results will be shown in the data selection window.

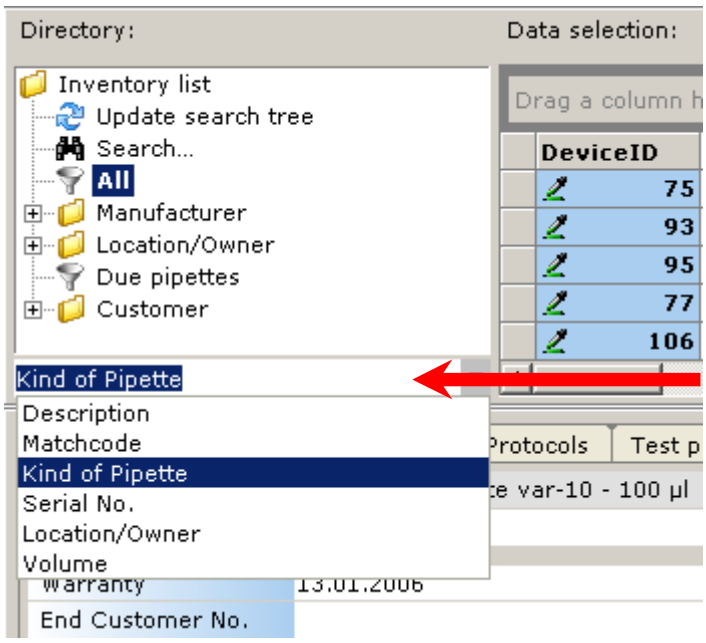
Note: If the search tree is not displayed, select "Search tree" using the "View menu" to show it. You can hide the search tree using the same menu item to gain more space for the list view.

Example: You only want to show locations which are in zip code area 2 in the “Location/Owner” list. To do this, open the zip Code folder in the search tree and select filter 2.

3.5 What are the functions for data selection?

The search results are presented here. By clicking on one of the data sets you can display detailed information on a data set.

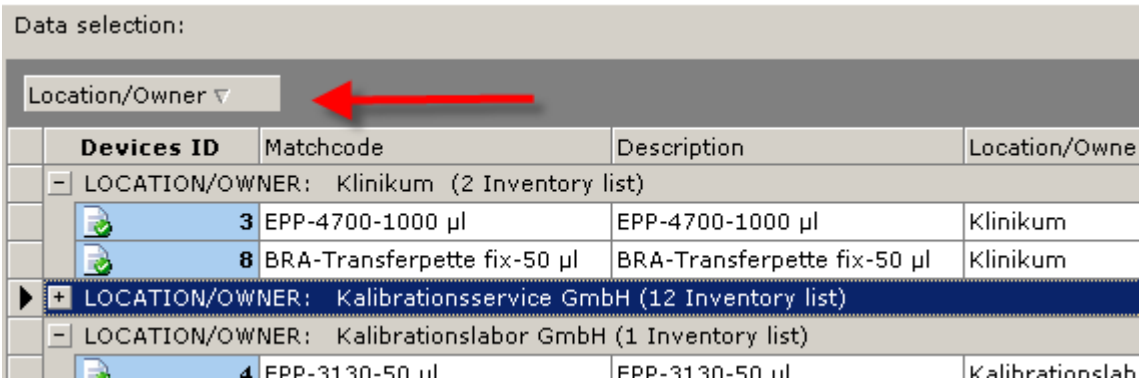




Here you have the option to modify the display in the data selection window according to predefined criteria.

3.5.1 The group box

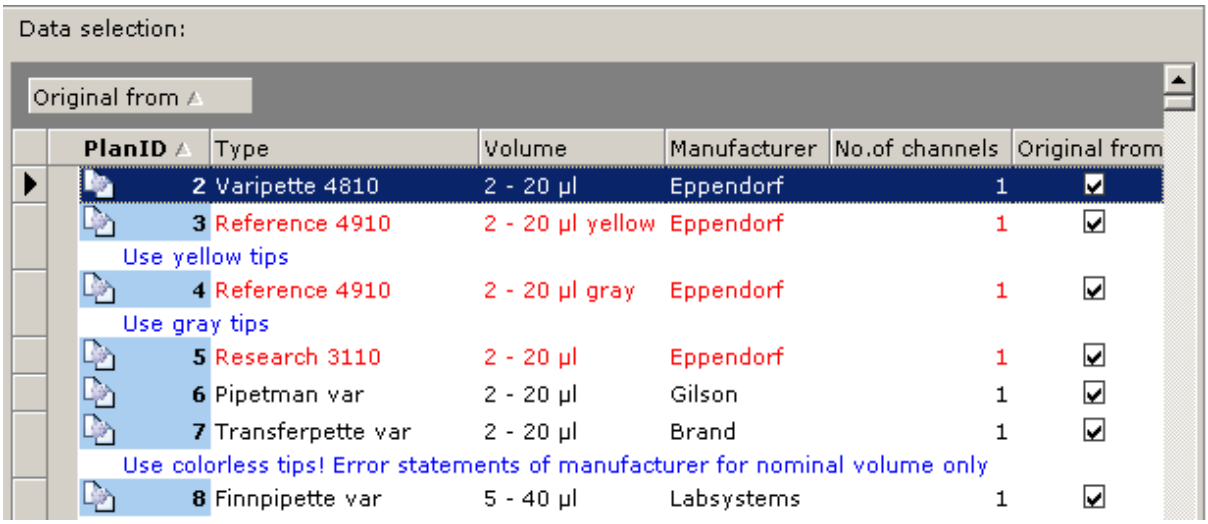
When the group box is enabled, you can group the data sets displayed in the data selection window according to column headers. To do this, left-click on the column header, hold the button down and drag the column header to the field in the group box.



Note: You can enable/disable the group box using the button in the toolbar.

3.5.2 Color settings

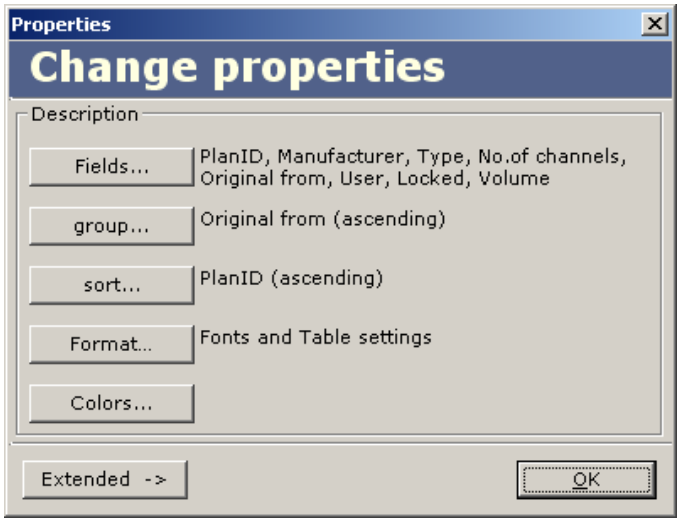
You can use colors to highlight certain data according to specific conditions.


Data selection:
Original from
PlanID
Type
Volume
Manufacturer
No.of channels
Original from
2 Varipette 4810 2 - 20 µl Eppendorf 1
3 Reference 4910 2 - 20 µl yellow Eppendorf 1
Use yellow tips
4 Reference 4910 2 - 20 µl gray Eppendorf 1
Use gray tips
5 Research 3110 2 - 20 µl Eppendorf 1
6 Pipetman var 2 - 20 µl Gilson 1
7 Transferpette var 2 - 20 µl Brand 1
Use colorless tips! Error statements of manufacturer for nominal volume only
8 Finnpipette var 5 - 40 µl Labsystems 1

To do this, right-click on the column headers and the context menu will open.

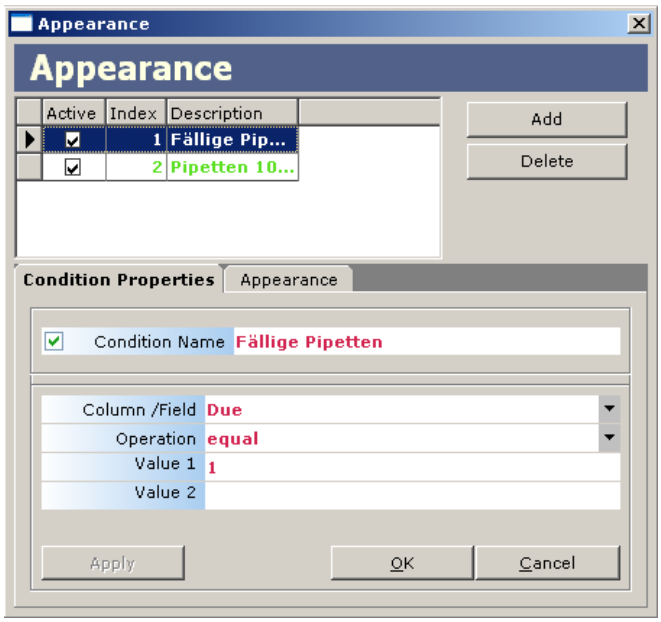
Select the Appearance entry.

Alternatively, you can also navigate using **the View→ View** properties menu bar.



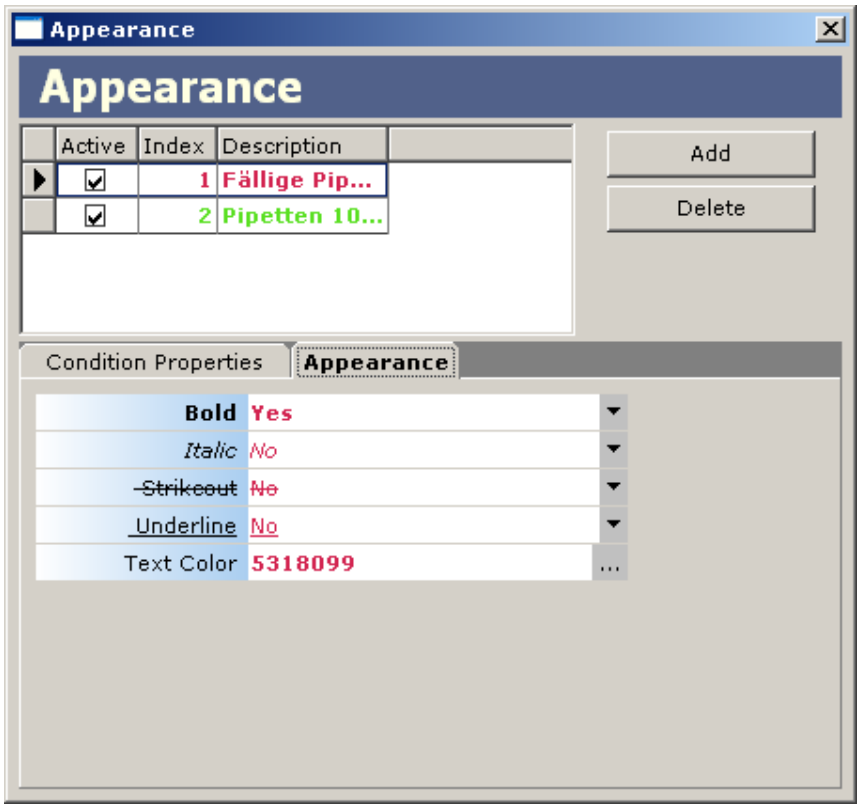
In the dialogue box that opens, click on the Colors... button. Here you can adjust the view of the data selection window to be form-specific.

Click on a setting to change it. You can then change and customize the settings in the lower area.



Click on the **Add** button to crete a new rule. Enter a *Condition name* and then in the *Column/Field* area select an available field for which an *Operation* relating to the *Value1* and *Value2* fields is to be set up.

The appearance options can now be determined in the next step under the *Settings* tab by simply selecting them.



Return to the *Condition properties* tab to accept and activate your data.

Do not forget to tick the *Condition name* field by clicking on it, otherwise the setting will not be active.

Note: The settings are form-specific.

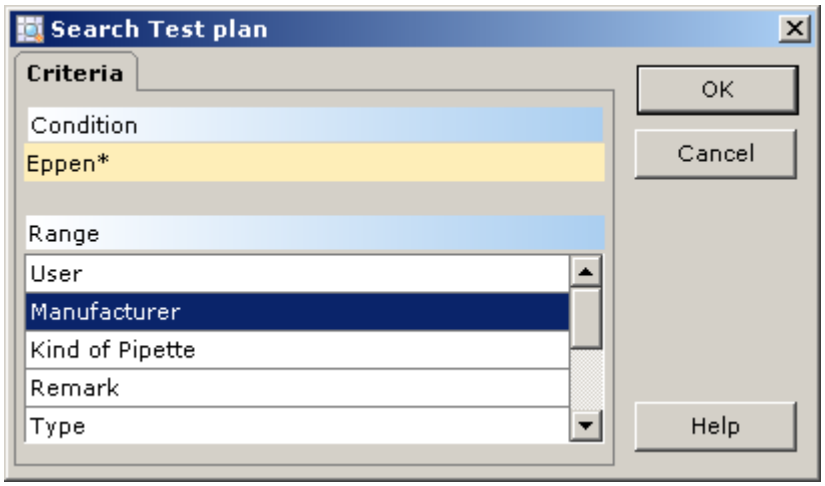
3.6 How does the search function work?

In addition to the search tree there is another search function available to you.

To call up this search function there are several options available to you:

- Using Search... in the search tree
- Using the Search... button on the form
- Using the Search button on the toolbar

All three options will take you to the same search window. Depending through which form you have opened the search from, various criteria can be selected for your search.



Highlight the *Search area* in which you wish to search and enter the appropriate search criteria in the *Condition* field.

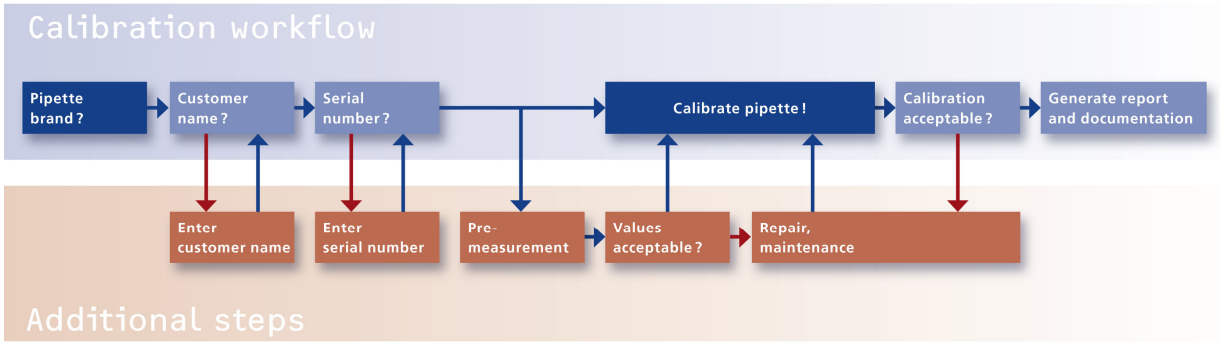
Then confirm your search with the OK button and your search results will be displayed in the data selection window.

Note: A wildcard is available to you for the search.
The * asterisk gives you more options when entering your conditions.

Example: Search condition *Mr Thom**
Search hits any character can follow all data sets with *Thom. Thomson or Thompson*

4 What happens during calibration?

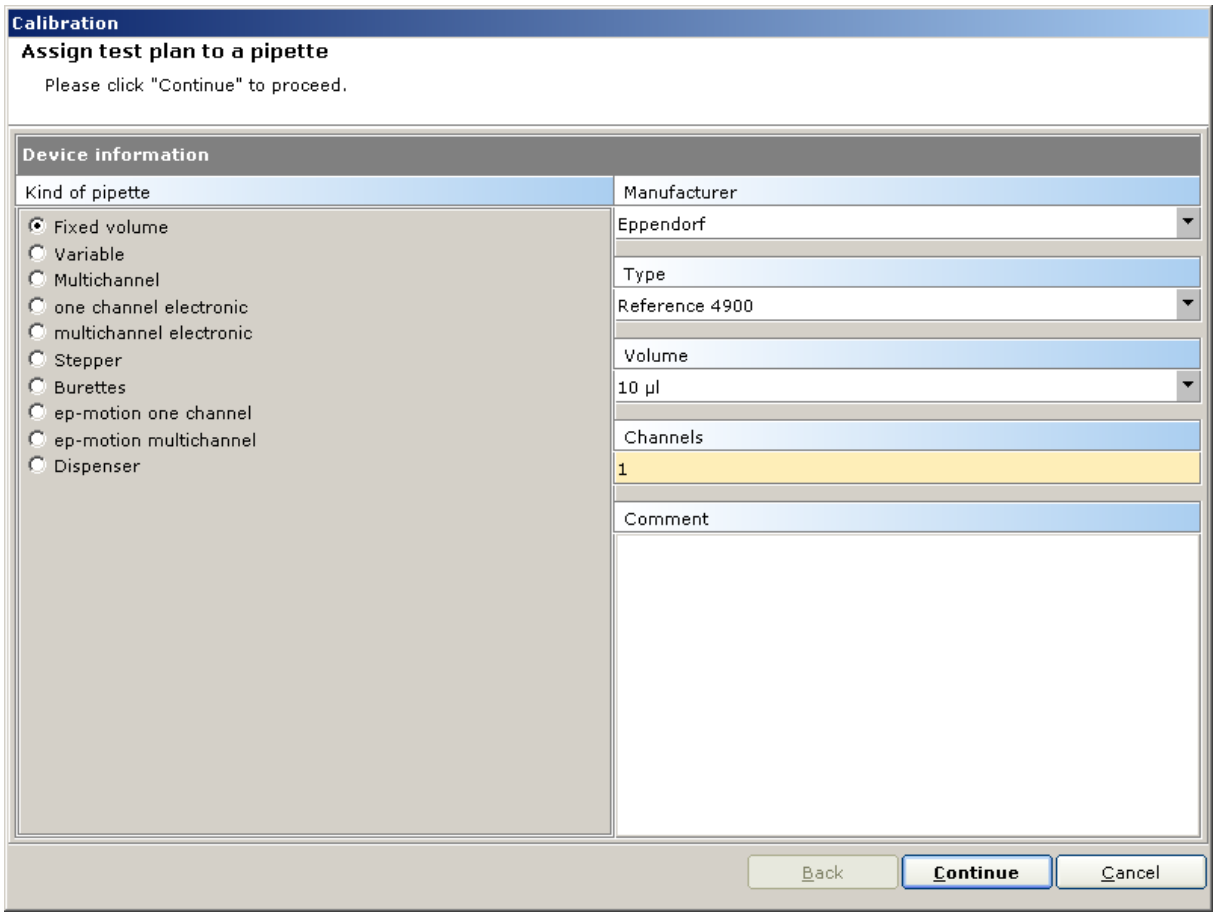
A schematic workflow of a calibration is represented below.



Based on this, you can first enter the main data for a pipette which has to be calibrated. Using the data, this pipette will automatically be assigned a test plan. You can find out more about test plans in Section 9 *What are test plans?*

By selecting **Pipette type** on the left-hand side of the dialogue box you can limit the range of pipettes which are available in the lists on the right-hand side of the dialogue box. If you select “Variable”, for example, the lists only show pipettes with variable volumes.

On the right-hand side of the dialogue box you can select the **Manufacturer, Type** and **Volume** from the list available and the number of **Channels** for the new pipette to be created. Where necessary you can also add a **Remark**.

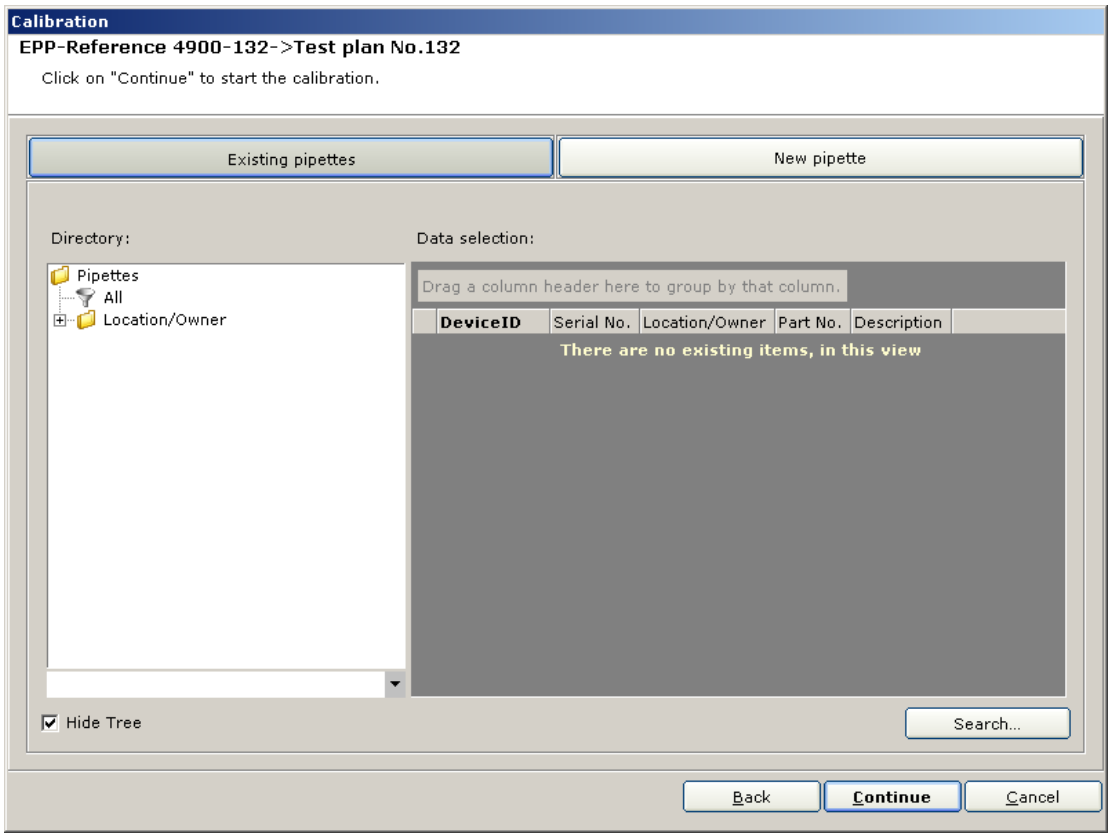


With the Continue button you will proceed to the next step in calibration.

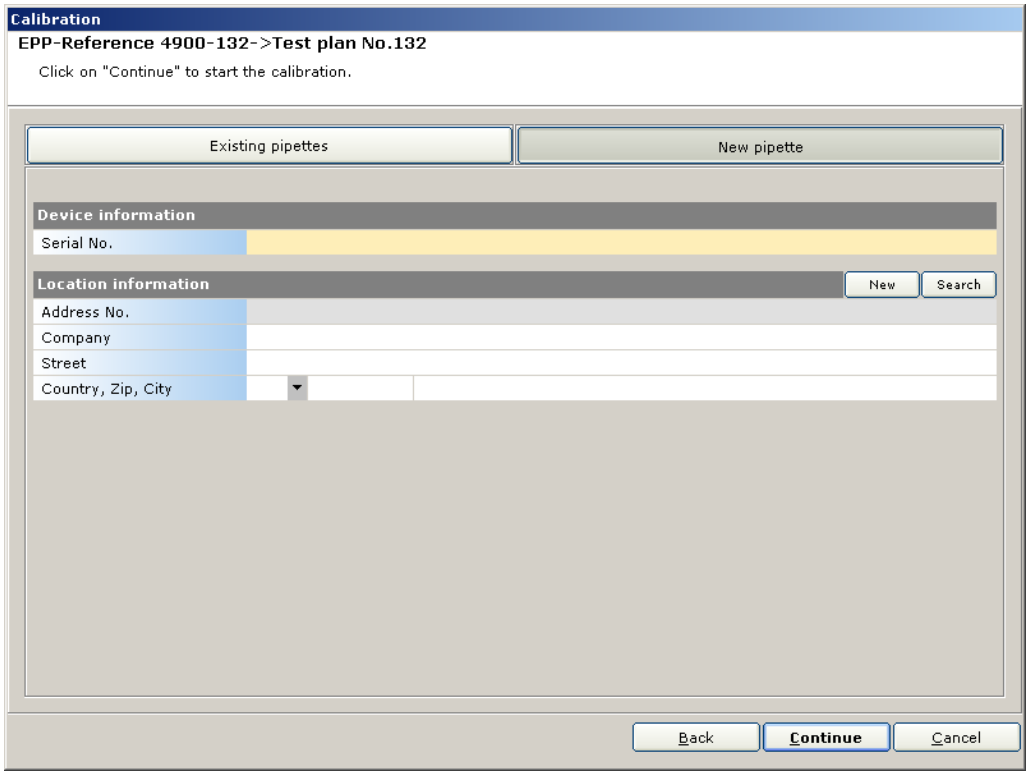
By clicking on Cancel the calibration procedure will be canceled without saving the entries made up to this point.

In this form you can select a pipette for calibration which is already present in the system or create a new pipette for calibration.

If a pipette is already created in the system according to the previously selected test plan, the following form is displayed.

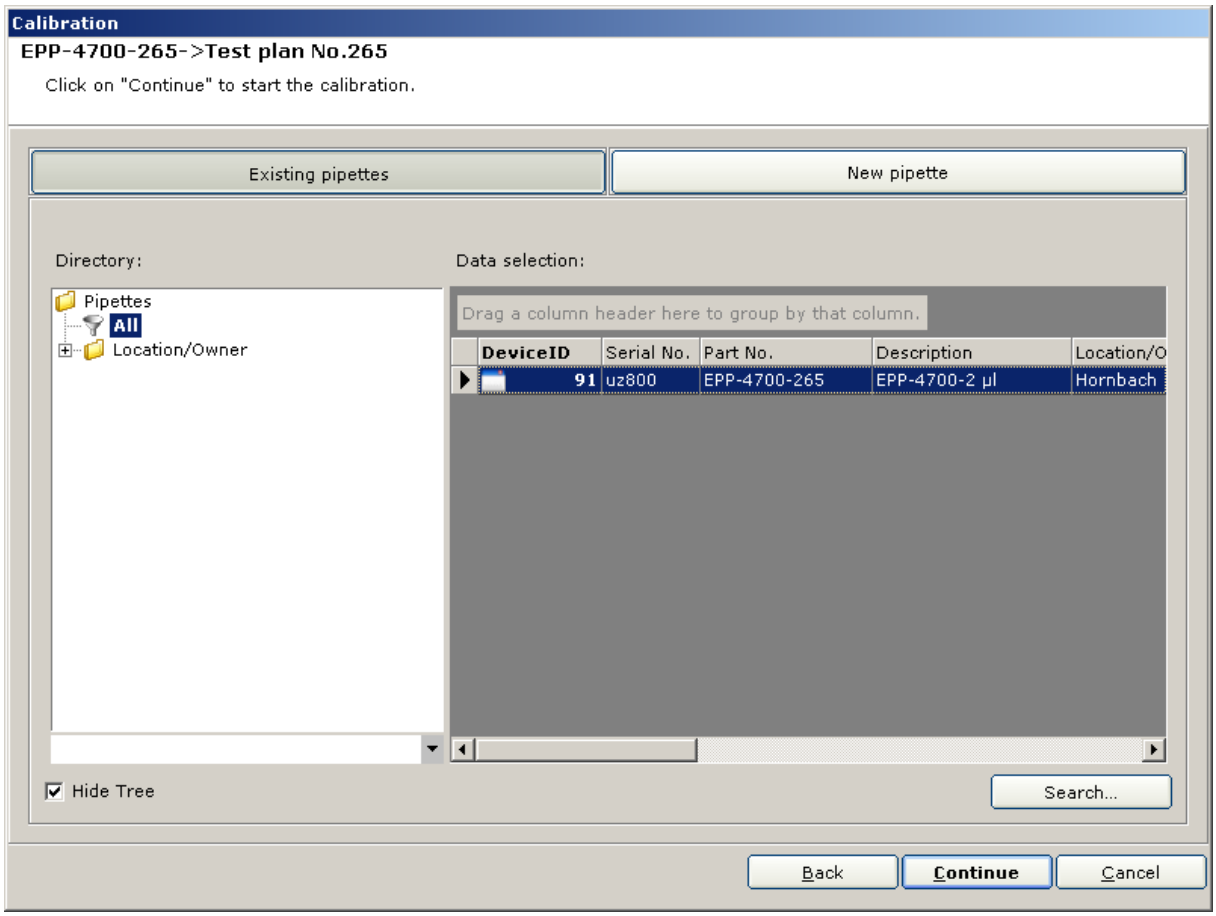


If no pipette exists in Pipetto according to the selected test plan, this will be indicated in this form.



4.1 How will the calibration be carried out with a pipette which already exists?

In order to calibrate a pipette already stored in Pipetto, click on the Existing pipettes button and the following form will be displayed.



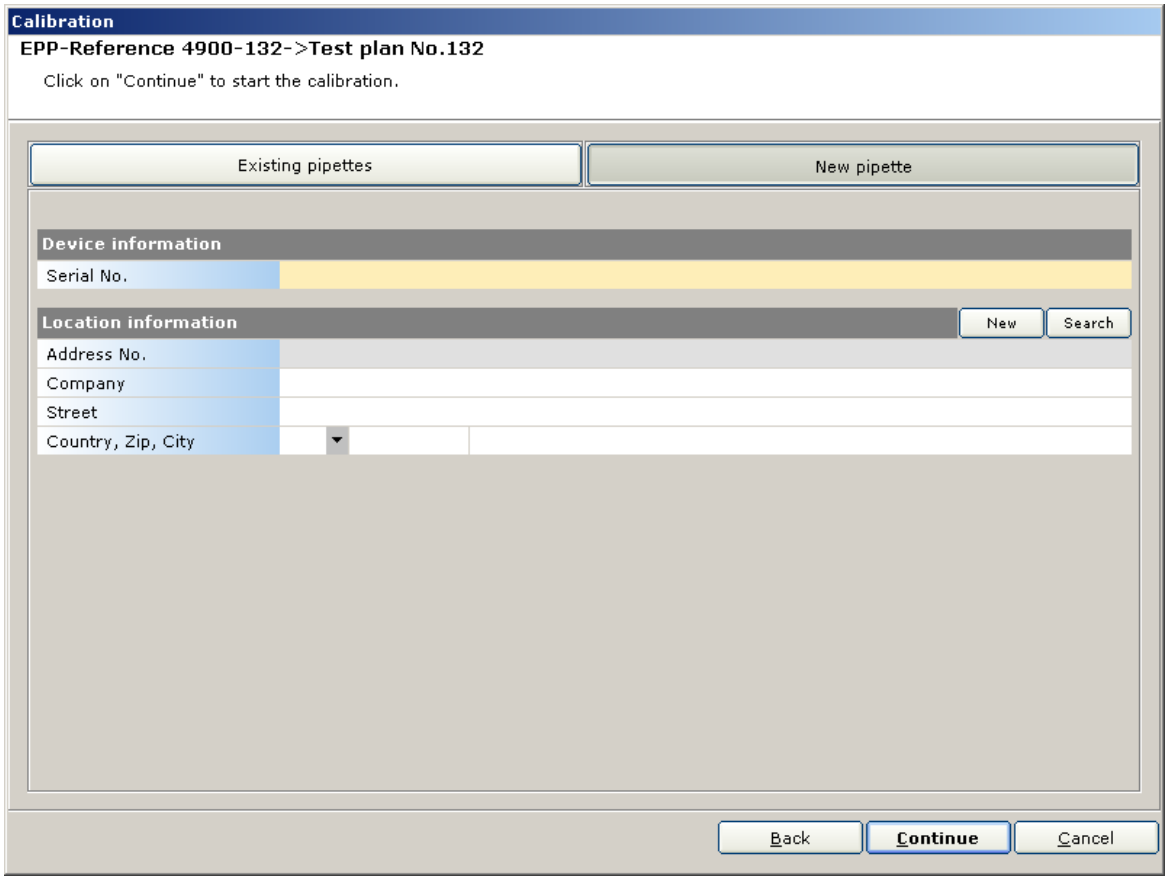
Use the search tree or the Search... button to display the relevant pipette in the data selection window. Highlight the required pipette by clicking on it and then click on the Continue button.

By clicking on Cancel the calibration procedure will be terminated without saving the entries made up to this point.

Note: Please see Section 3.4 *How does the search tree work? and 3.6 How does the search function work?* for the search functions.

4.2 How will the calibration be carried out with a new pipette?

If no pipette corresponding to the previously specified test plans is found in Pipetto you will be taken directly to the form below.



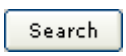
If pipettes have already been created but you wish to record a new pipette, click on the

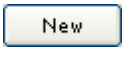
button to call up the form above.

Here you must enter the serial number of the pipette in the ***Serial No.*** field.

Location information is then recorded.

There are two options available to you here:

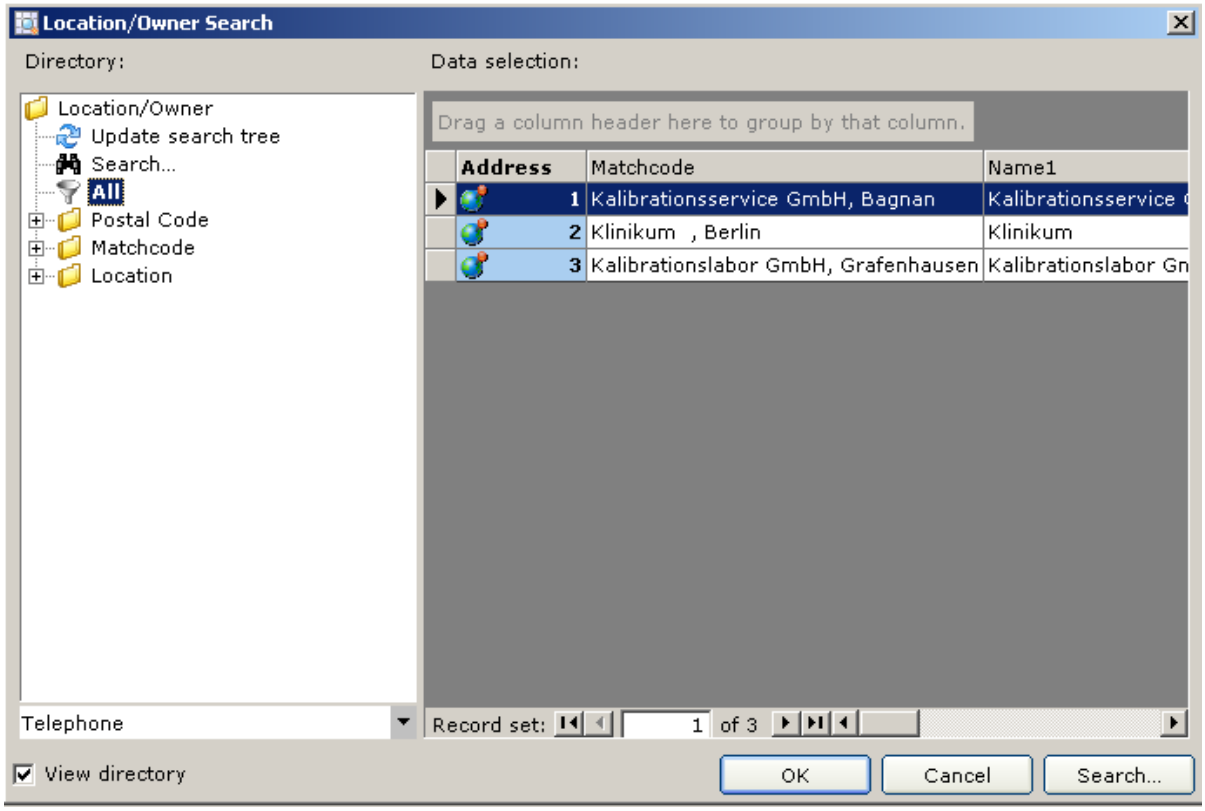
- Location already created → 

- Location not yet created → 

4.2.1 Location is already created?

Highlight an existing location and click on the OK button to accept the location information.

By clicking on Cancel the calibration procedure will be terminated without saving the entries made up to this point.

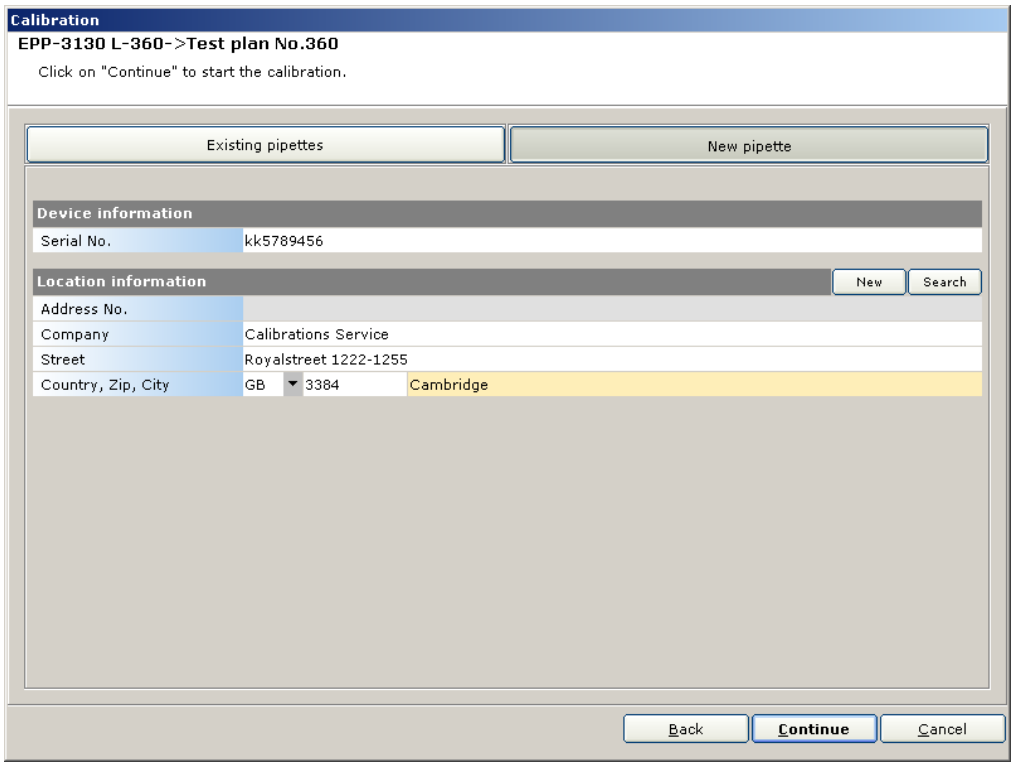


Note: Please see Section 3.4 *How does the search tree work? and 3.6 How does the search function work?* for the search functions.

4.2.2 Location has not yet been created?

If a corresponding location has not been created for the calibration of an existing pipette, you can activate the input of location data using the Neu button.

Now enter the data for *Company, Street, Country, PC* and *City*.

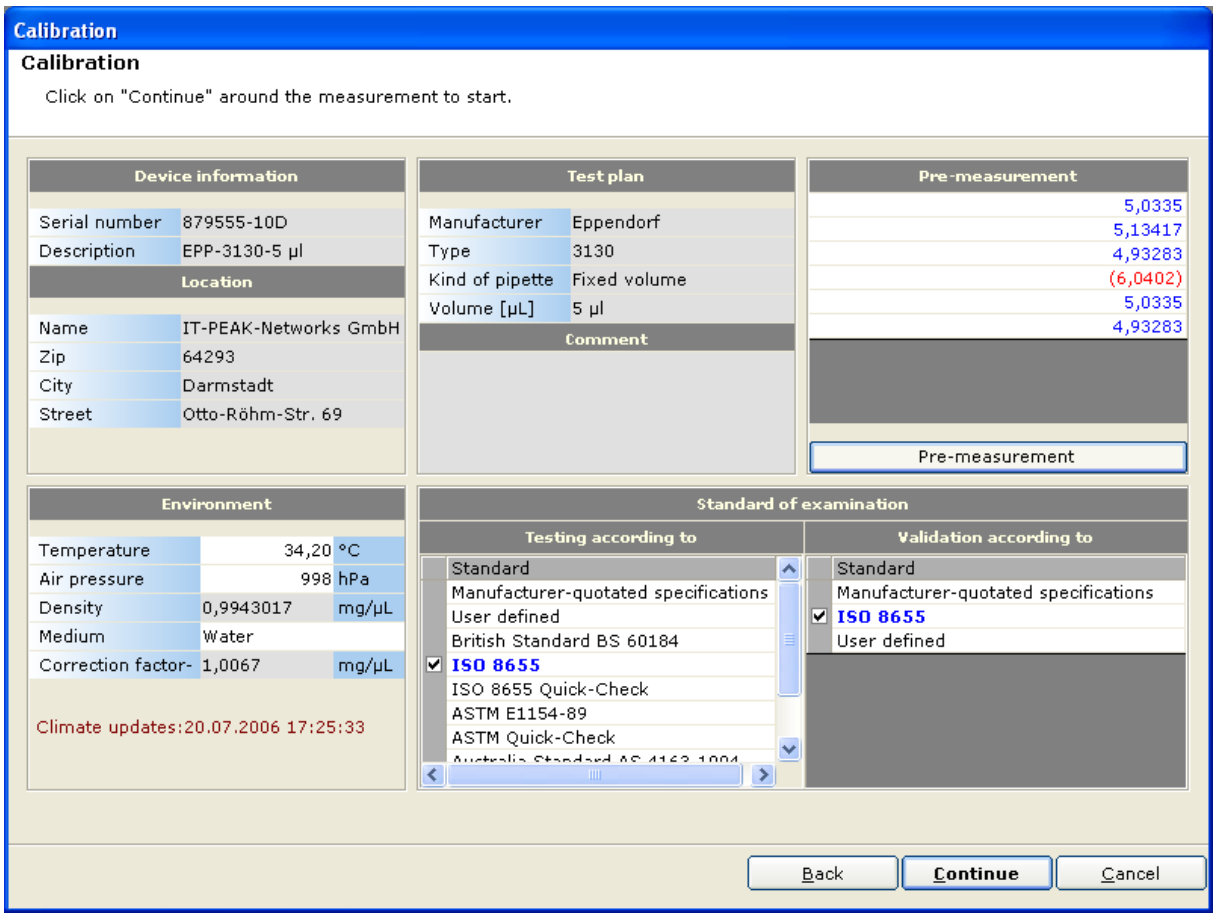


Then confirm your entry by clicking on the Continue button.

The location is created and you are taken to the next form.

4.3 What are the preparations for calibration?

After you have entered the test plans, pipette data and location information you will be taken to the form for calibration preparations.



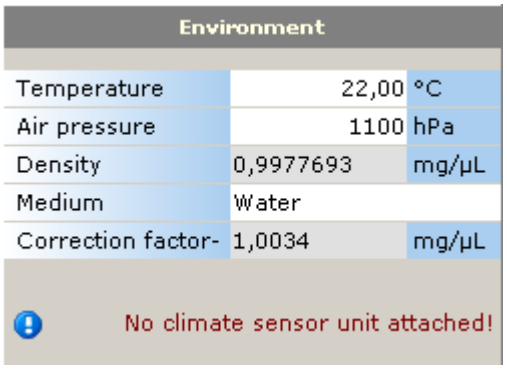
On this form page you will see an overview of the *Pipette, Test data* and *environmental conditions*. Environmental conditions will be entered automatically using PCOM.

In addition, you have the option of carrying out a **pre-measurement** before the actual calibration, which will not be relevant to calibration.

When all the data has been specified and checked, proceed to the measurement by clicking the button..

4.3.1 The environment area

Real-time compensation for environmental conditions is provided using the PCOM climate module. The values show up in the environment area

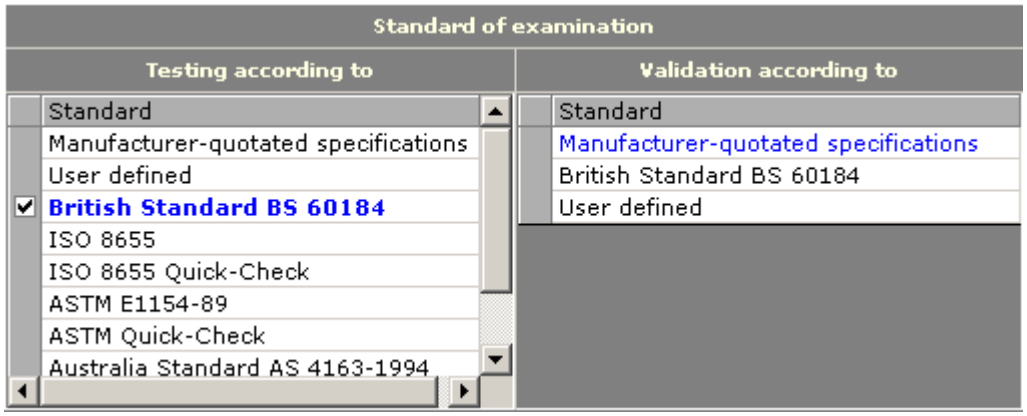


If a **climate box** is **not** connected to the PC (only in demo verisons), you must adjust the climate data for temperature and barometric pressure before calibration in the environment area. In addition, you should check whether the **Calibration medium** displayed is actually being used and, where necessary, modify the entry.

Tip: For *Temperature, barometric pressure* and *Medium* you can determine default values in the general settings. The relevant dialogue box can be accessed by the workdesk bar: *Settings* → *General* and then in the *Environment* folder, the *Settings* page.

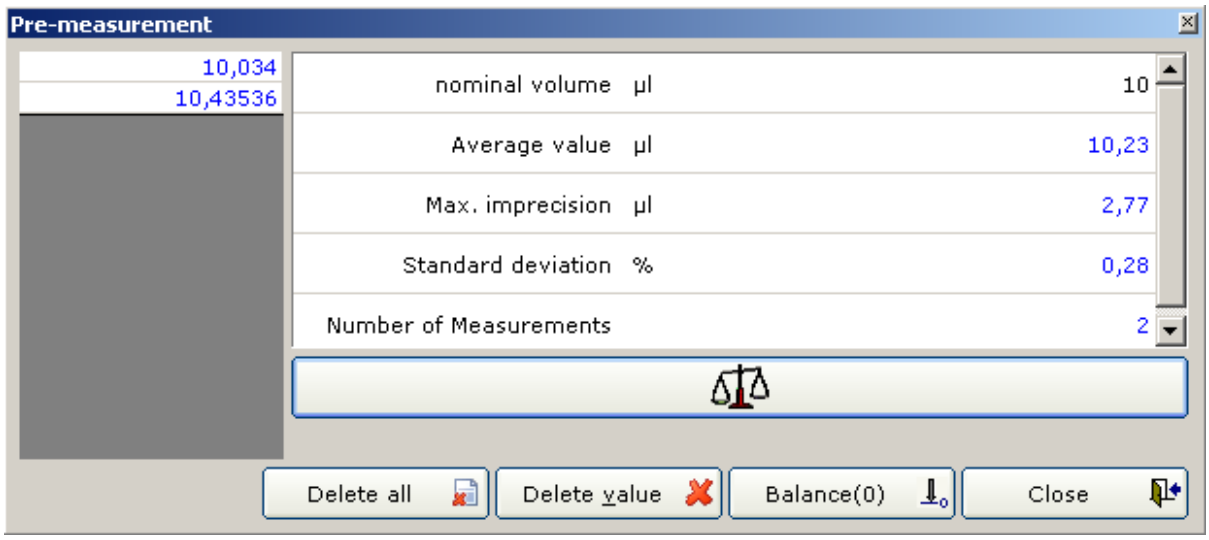
4.3.2 The Testing Standard area

Here you can change the testing standards for the current calibration procedure for the execution of calibration and the associated assessment. Make your selection by simply clicking on it.

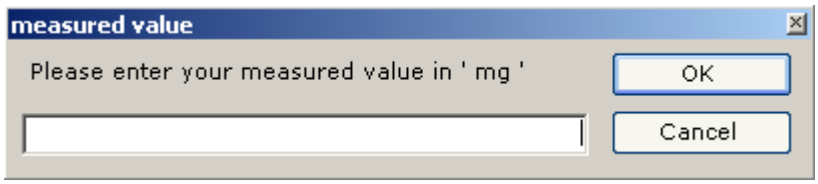


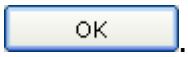
4.3.3 The pre-measurement

This form enables you to carry out a pre-measurement which will not affect the actual calibration.

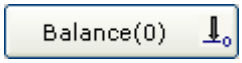


Assumed that a balance is connected to the PC and has been configured in Pipetto, you can read off the measurement results directly using the button. If the balance has not been configured, the following dialogue box appears after clicking on the button and you can enter the values manually.



After entering the measurement value, confirm your entry by clicking on 

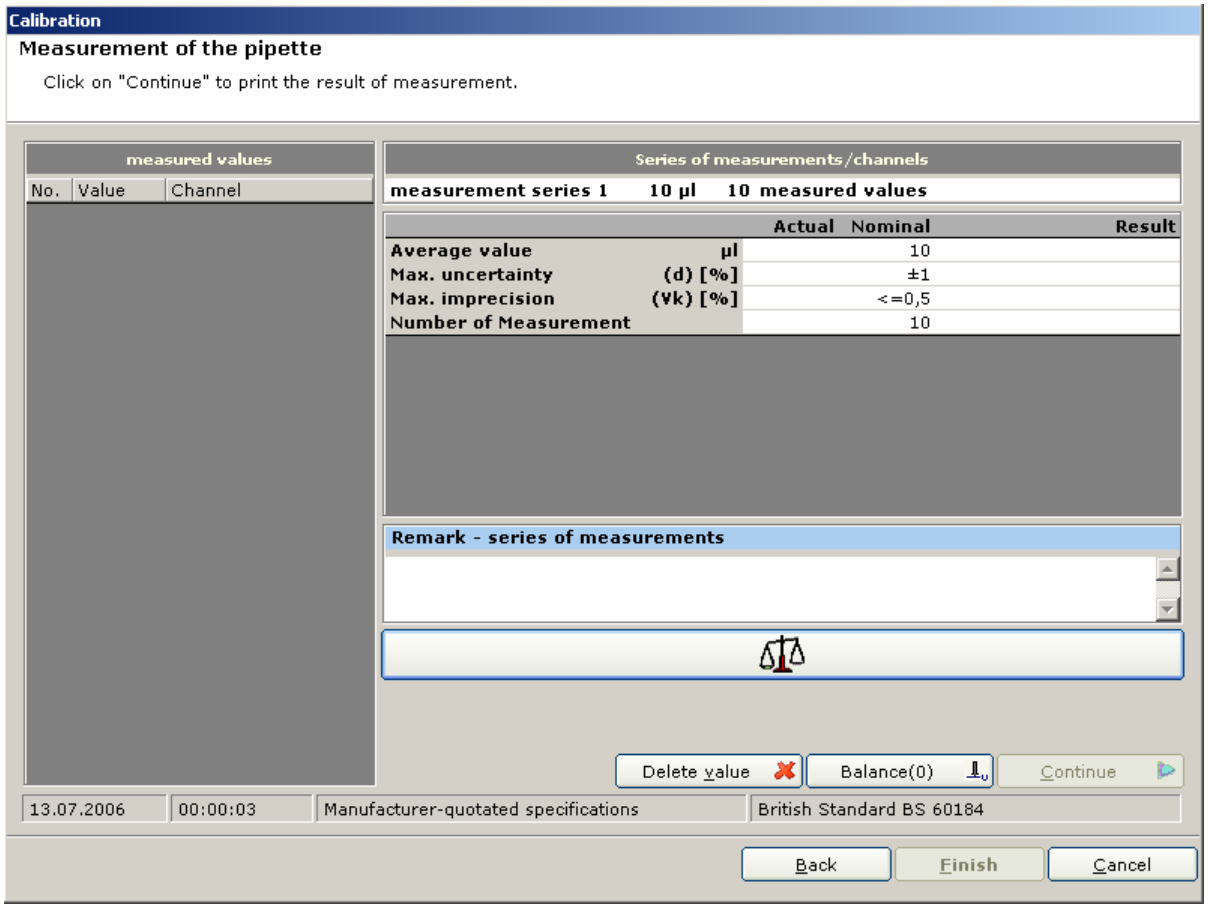
. The value in the list on the right-hand side will be accepted for this.

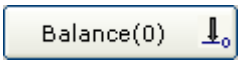
Using the 

button you can set the connected balance to 0.

4.3.4 How is calibration of the pipette carried out?

The measurement process is described here using 8 steps during calibration.



Step 1: If a balance is connected to the PC, set it to 0 using the 

button.

Step 2: Pipette the volume of test fluid (generally distilled water) specified under Series of measurements/channels into the collecting basin on the balance.

Step 3: Transfer the measured data on the balance by clicking on the
button. If no balance is connected a dialogue box appears to enable manual entry of the measured data.

After recording the data you will find the results of the measurement under

Series of measurements/channels.

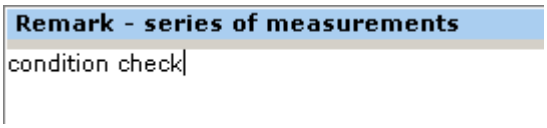
Series of measurements/channels					
measurement series 1	C 1000 µl	10 measured values			
		Actual	Nominal		Result
Average value	µl	1003,98	1000		
Max. uncertainty	(d) [%]	0,4	±0,6	✔	
Max. imprecision	(Vk) [%]	0,03	<=0,2	✔	
Number of Measurement		10	10		

The green tick indicates a positive measurement result for *Max. uncertainty* and *Max. imprecision.* A negative result is indicated by the ✘ icon.

At the same time, the measured weight is automatically converted into the pipetted volume and entered in the **Measured values** table.

measured values		
No.	Value	Channel
1	1004,3401858	Channel(1)
2	1003,5926528	Channel(1)
3	1003,570578	Channel(1)
4	1004,3492164	Channel(1)
5	1004,0742848	Channel(1)

Step 4: Where necessary, enter a **Remark** for the **series of measurements.**



Press CTRL - Enter to get a line break whilst entering the text.

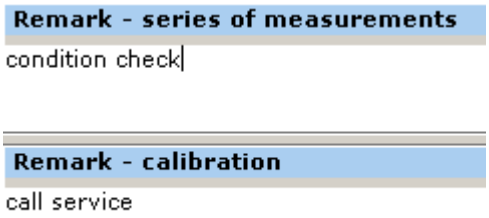
Step 5: Then confirm the series by clicking on the

button.

Step 6: Repeat steps 1 to 6 until all values in the series have been determined and click on

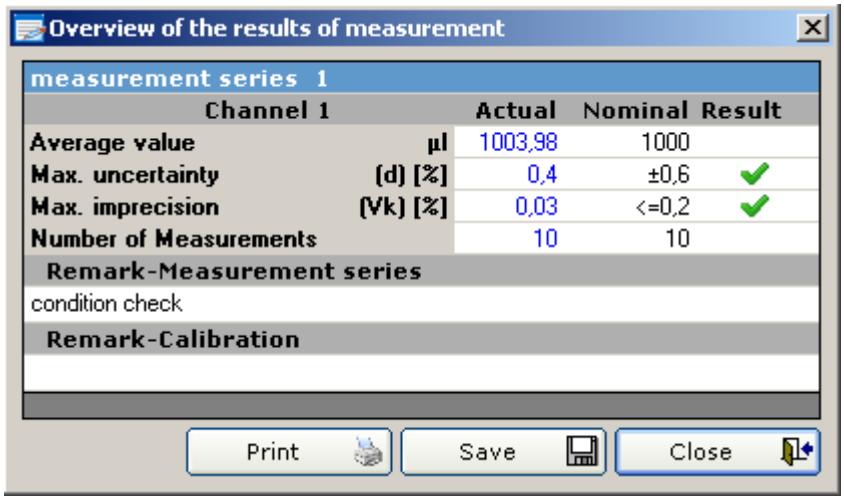
.

Step 7: Where necessary, enter a **Remark** for the **Calibration.**



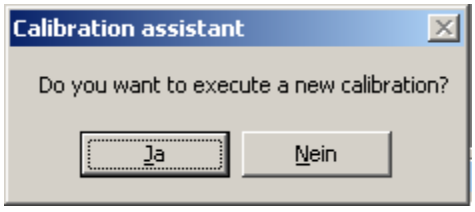
Step 8: Confirm the measurement results by clicking on the Finish button.

This will take you to the overview of the measurement results. Here you can now print and/or save the **measurement protocol** for **calibration.**



You can find an example **measurement protocol** in *Annex A.*

After printing and/or saving you can carry out a new calibration by clicking on the Finish button.

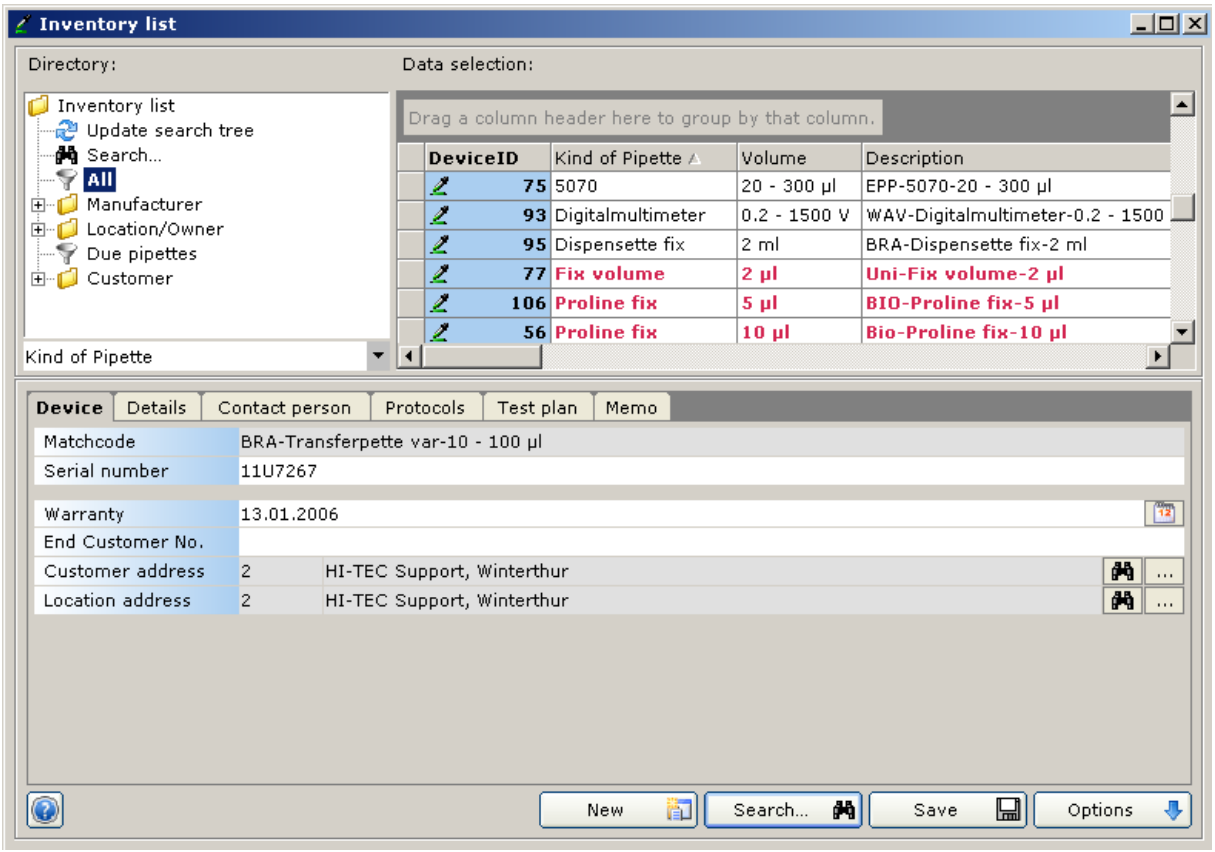


This will take you directly back to the **test plan** input screen. The most recent settings are still stored and you can start a new calibration again.

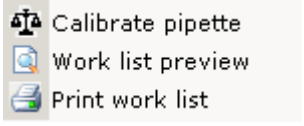
5 What is the inventory list?

The inventory list contains all the pipettes registered in your database.

The initial form is displayed containing no data. Then you must select a data set. See Section 3.4 *How does the search tree work* and 3.6 *How does the search function work?*



The Options button enables the following functions



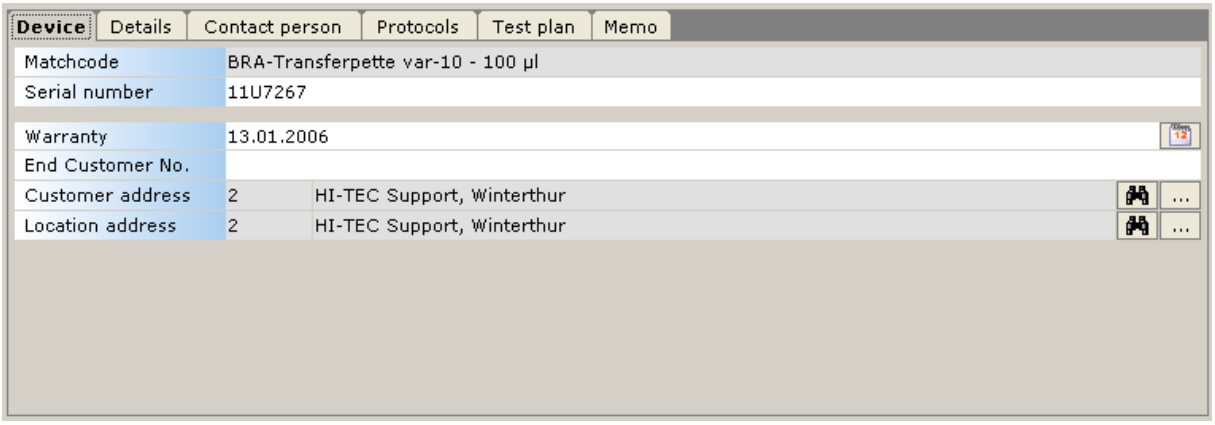
These functions can also be obtained by right-clicking on the pipette in the data selection window.

5.1 How is a new pipette created?

Click on the

button to create a new pipette. Then the same procedure as for calibration is started. See Section 4 – 4.3 "What happens during calibration?"

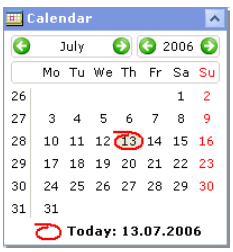
5.2 The Device tab



Matchcode The pipette name. This is generated automatically from the manufacturer, type and pipette volume when a new pipette is created. You can also enter your own name for the pipette here.

Serial number The serial number of the pipette can be modified here if necessary.

Warranty Specifies the expiry data of the warranty for the pipette. You can either enter the date directly or select it using the calendar, which you can access via the calendar button on the right-hand side.



First installation Enter the day on which the pipette is to be installed for the first time. By default, the date recorded will be set in the database. You can either enter the date directly or select it using the calendar, which you can access via the calendar button on the right-hand side.

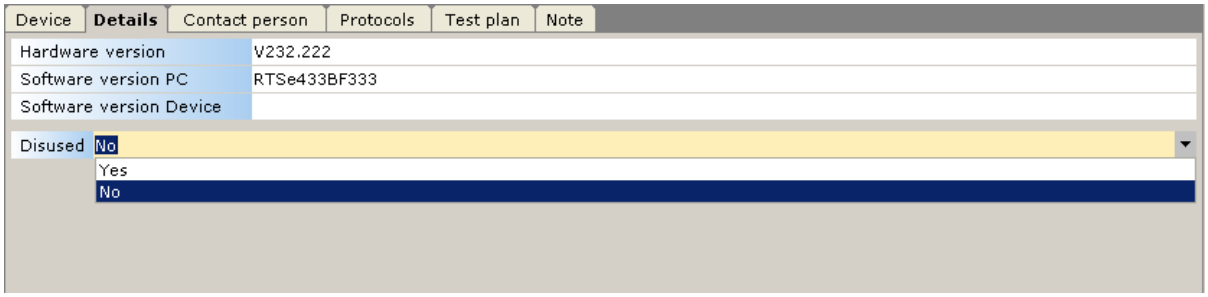
End customer no. If available, enter the inventory number under which the pipette is used at the end customer.

Customer address/location address

The fields show an abbreviation of the address selected. To modify an address, click on the ... button (on the right). This opens the Location/Owner window in which you can change the address.

If you want to select a different address, click on the button to search for an address.

5.3 The Details tab

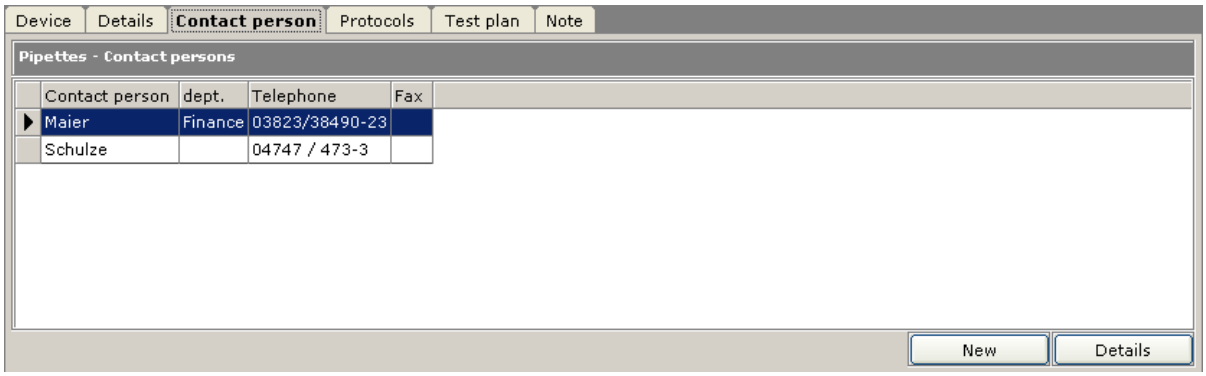


Enter additional information useful for managing the pipette.

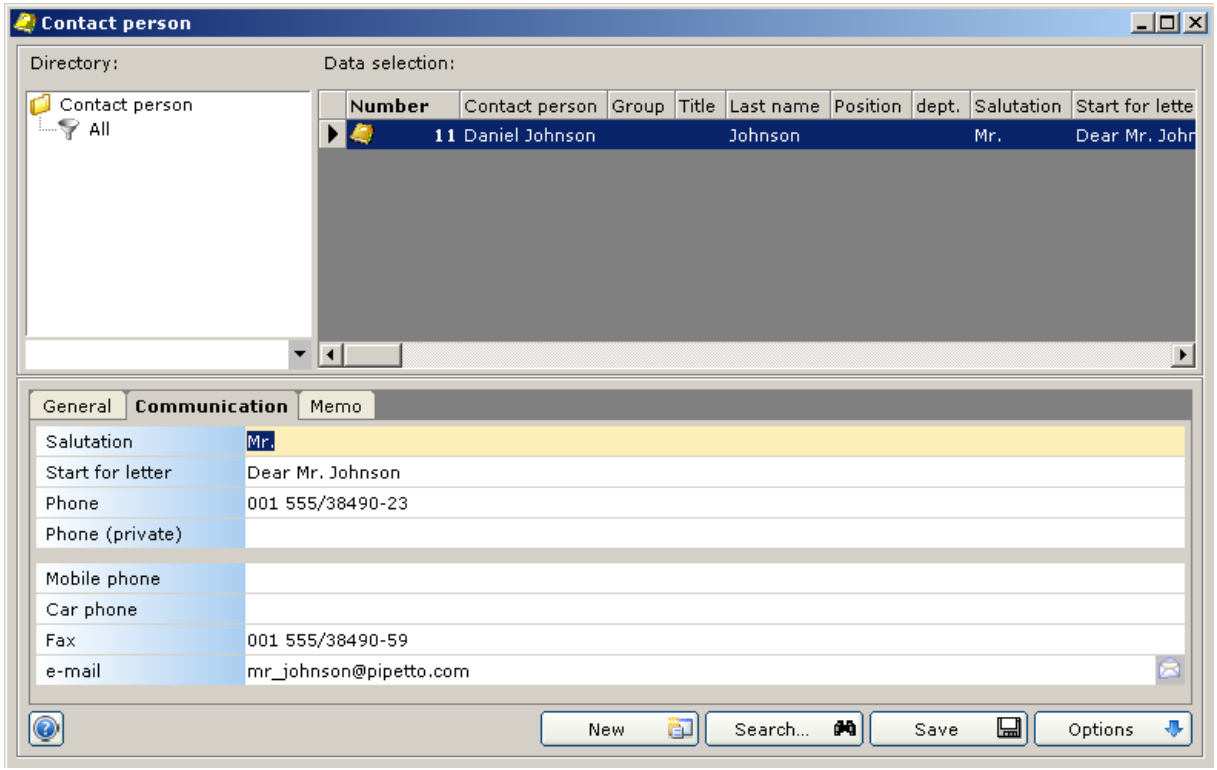
Disused If the pipette is not longer used or no longer exists, set this field to yes.

5.4 The Contact person tab

Here you can see the contact for a location assigned to the pipette.



By highlighting an entry and then clicking on the Details button, you can access the *Contact person* form. If no contact is entered, you can open the Contact partner form using the New button. Now you can create a new contact person.



This window opens if you add a contact person to the Location/Owner list or wish to see details on an entry. Only entries for the current location are displayed.

The New button opens the **General** tab with blank fields so that you can enter a new contact person.

Use the Save button or the [Shift] + [Enter] key combination if you want to save changes to the selected data set immediately after making entries on the tab. Otherwise data is automatically saved if you select a different data set or switch windows. To discard the changes press the [Esc] key.

Note:

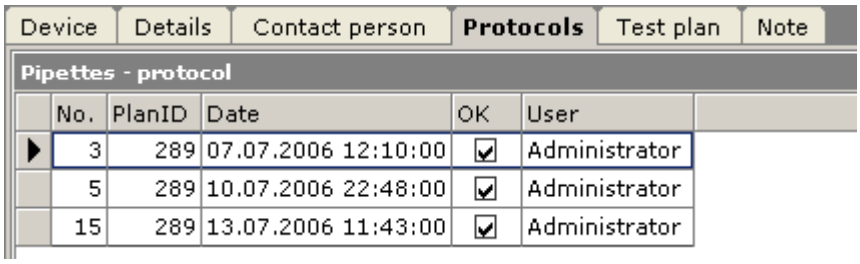
- On the General tab you can also enter the date of birth using the calendar, which is accessed via the button (on the right).
- If an e-mail is entered in the Communication tab, you can create an e-mail with the address entered as the recipient via the button (on the right).

Close this form again to return to the Inventory list form.

Note: After changing or creating a new contact partner you must switch to the *Contact person tab* in the **Inventory list** once to update the changed/new data.

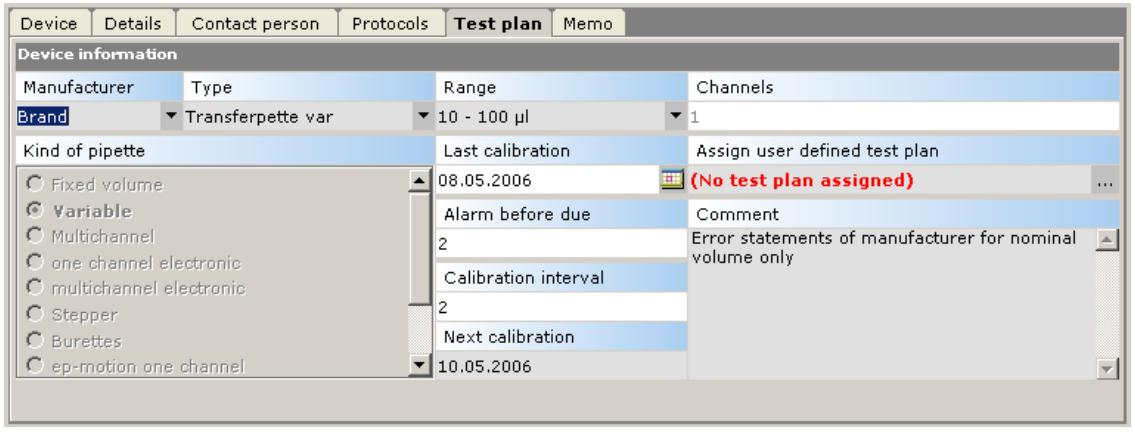
5.5 The Protocol tab

The list contains all the calibrations of this pipette previously carried out. To obtain more detailed information about a specific calibration, please highlight the relevant entry and click on the Details button (at the bottom right). The **Measurement protocols** form opens with the selected protocol entry.



5.6 The Test plan tab

Here you can view and, where necessary, modify the main data for the pipette, such as the type, pipette volume and channels. The pipette is automatically assigned the according test plan from the Pipetto database.



Calibration interval If the pipette is to be set automatically to the "Due" status after a specific time since the last calibration, you can enter the relevant number of days for this here.

Alarm before due Determines for how many days the pipette should appear as due before calibration is due. This means that you have time to be able to calibrate the pipette on time at the end of this period.

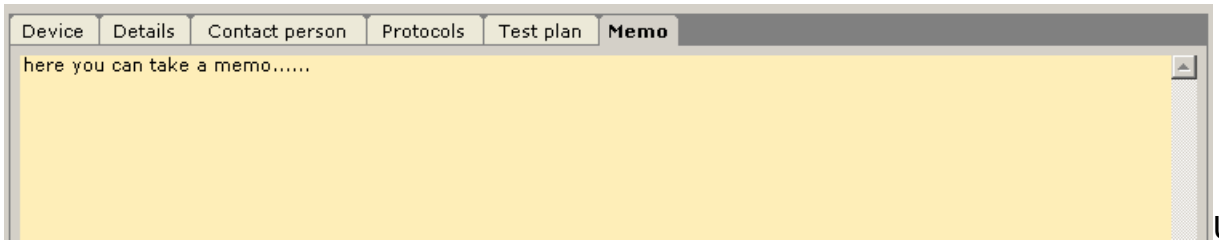
Last calibration on You can change the date of the last calibration by entering it directly or via the calendar. The date will automatically be updated after a calibration is carried out by the Pipetto programme.

Next calibration on This date is derived from the date of the last calibration and the calibration interval.

Assign user-defined test plan

If you have defined one or more user-defined test plans for this type of pipette, you can select one via the … button (on the right). During calibration you will have the option of using this test plan.

5.7 The Note tab



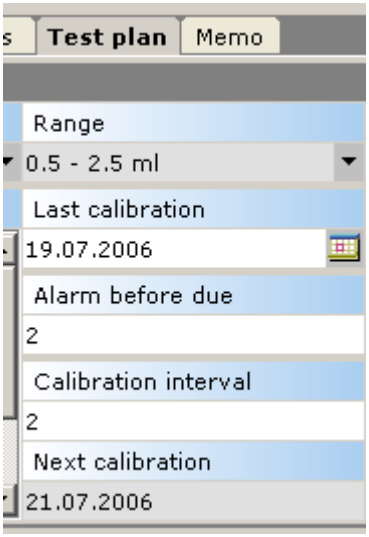
Use this space to write any additional information about the pipette.

Tip: This text (where necessary shortened to three lines) is displayed directly under an inventory list entry if the button for hiding/showing remarks has been enabled on the toolbar.

6 What is the work list?

The work list contains all pipettes for which a test or calibration is pending. If this applies to a pipette, it is derived from the current system date and the determination in the inventory list for the relevant pipette (test plan tab).

Note: The due date is derived from the inventory list and the corresponding settings.

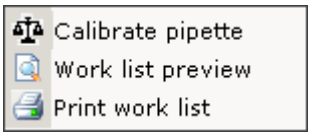


A pipette is automatically transferred to the work list when it is due.

The structure and use of the work list window (incl. the tabs) correspond to that in the inventory list. See Section *What is the inventory list?*

Tip: You can start calibration directly from the work list. To do this, click on

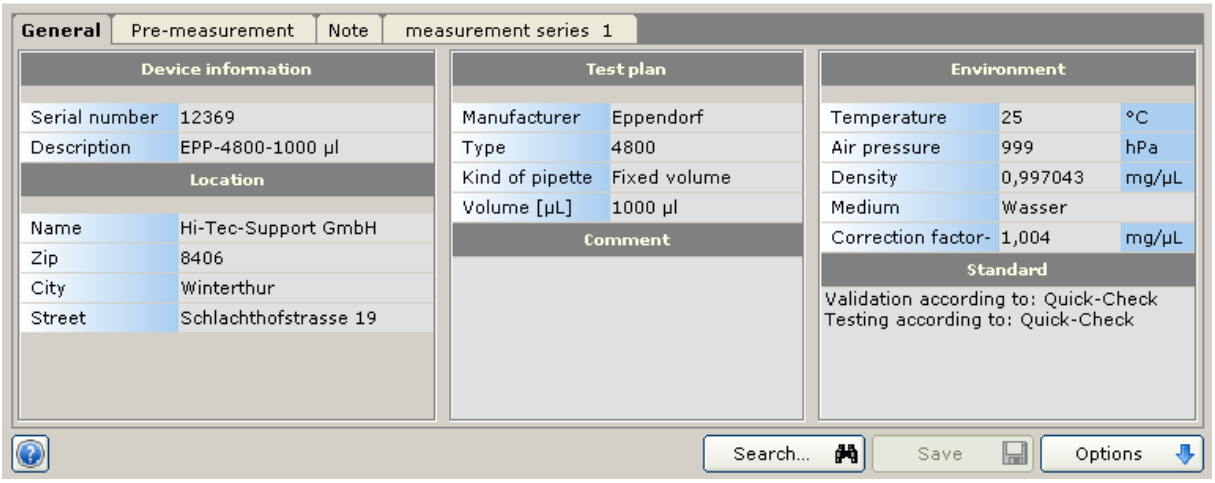
and call up the *Calibrate pipette* function.



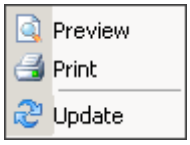
You can also select this function by right-clicking on a pipette in the data selection window or via the button on the toolbar.

7 What are measurement Reports?

This form shows you the calibrations already carried out with Pipetto. In the lower area you will see detailed information about the selected list entry.



The Options button and right-clicking on a calibration in the data selection window opens the menu.



Using this menu you can **print** the selected measurement protocol or view a **print preview.** With **Update** the current view is refreshed. This is useful after changes to data which you have carried out in a different window, for example.

Note: The following shortcut keys can be used:

- To start printing: [Ctrl]-[P]
- Update: [F5]

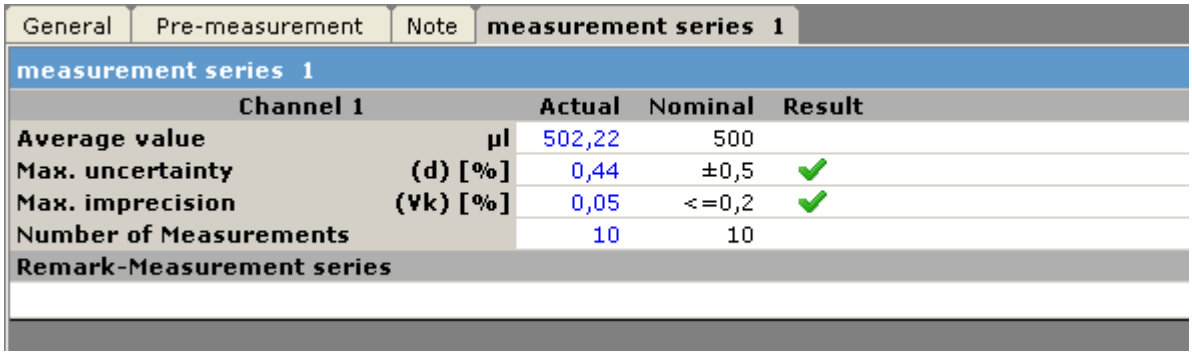
The **General tab** shows you an overview of the most important data for the pipette and for calibration.

If you have carried out a pre-measurement before the actual calibration the relevant measurement results are displayed under the **Pre-measurement tab**.

Note: The measurement results from the pre-measurement do not affect the calibration result.

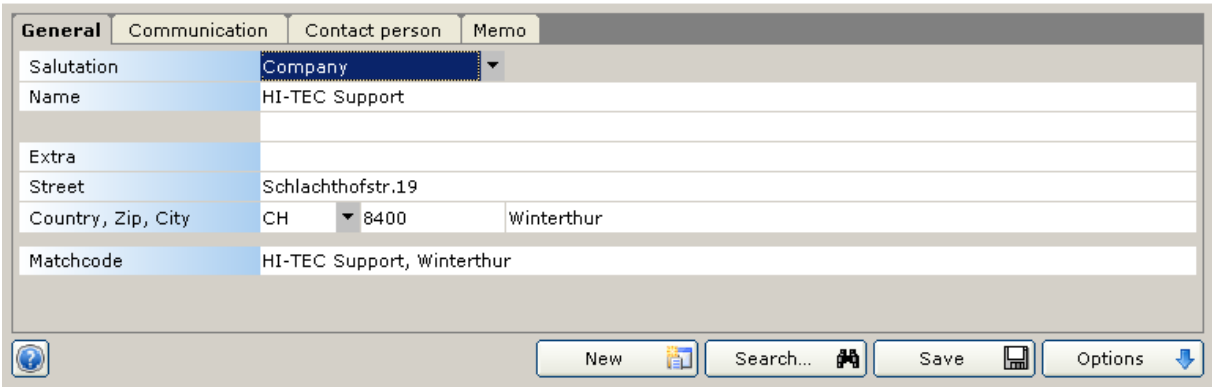
The **Note tab** allows you to see a note which was entered for calibration.

The **Measurement series** tab shows you all the measurement values for the individual measurement series and the statistical data.



8 What are locations?

In this list you can manage all the locations and owners of pipettes in the database. You can create and delete locations and modify location data.



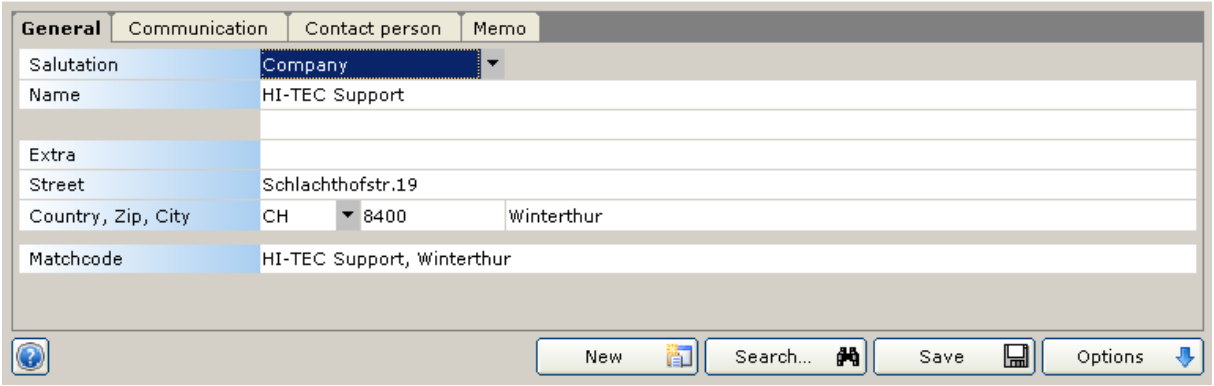
Note: If you delete a location from the database all the associated pipettes will also be removed.

The New button opens the **General** tab with blank fields so that you can enter a new address.

Use the Save button or the [Shift] + [Enter] key combination if you want to save changes to the selected data set immediately after making entries on the tab. Otherwise data is automatically saved if you select another data set or switch windows. To reject changes press the [Esc] key.

8.1 The General tab

All the general address data on the pipette location can be found here.



The **Matchcode** field groups all the important data on a pipette location.

Benefits:

- Informative description for displaying a location with only one field (e.g. using labelling)
- Simplified search since you can search for several criteria in one field.

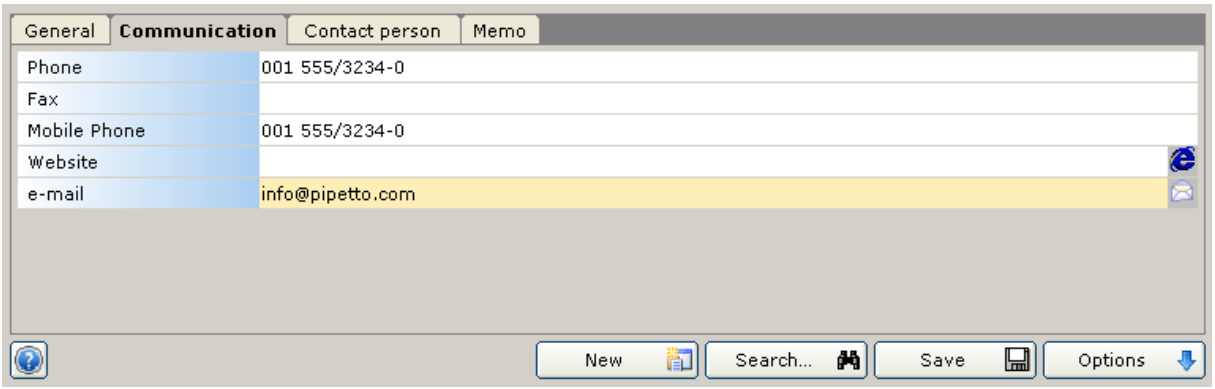
According to in-house style, the company name and the city, separated by a comma, are entered automatically in the field. You can, however, add to or change the information as required.

8.2 The Memo tab

If required, enter any text here which provides additional information on the location or owner which is not covered in the other fields.

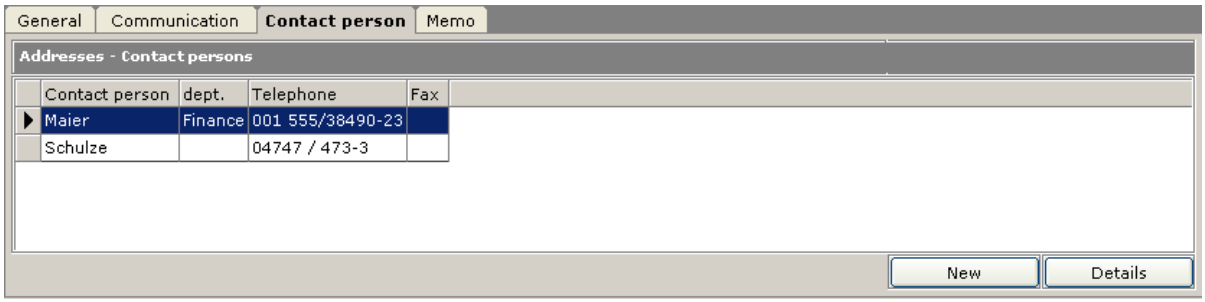
8.3 The Communication tab

Contains contact data for direct communication with the location. You can use the button on the right-hand side to call up the website which has been entered directly. Likewise it is possible via the button to create an e-mail with the address entered as the recipient.



8.4 The Contact person tab

You can specify different contacts with individual contact data for the location selected.



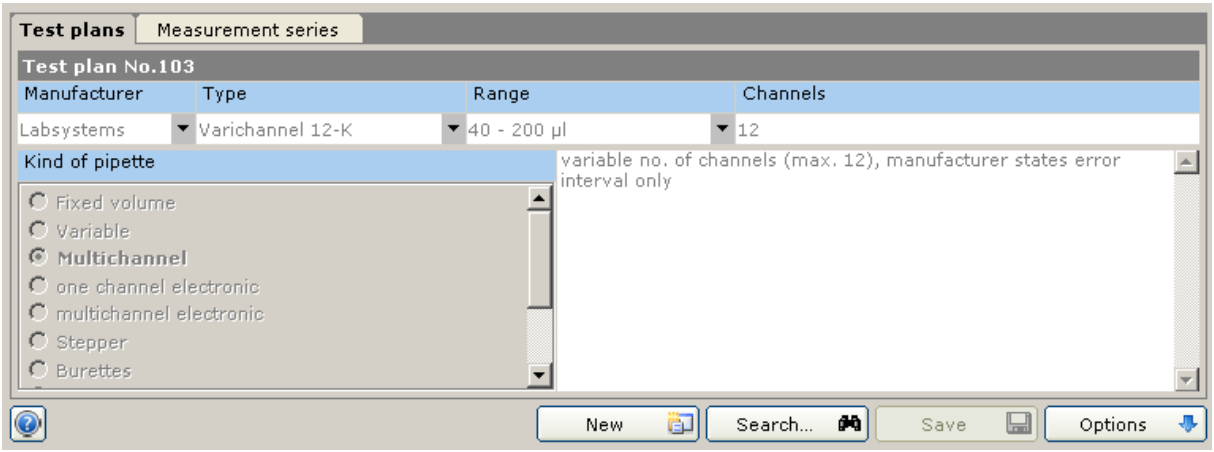
By highlighting an entry and then clicking on the Details button, you can access the *Contact person* form. If no contact is entered, you can open the Contact partner form using the New button. Now you can create a new contact person.

See also Section *5.4 The Contact person tab*

9 What are test plans?

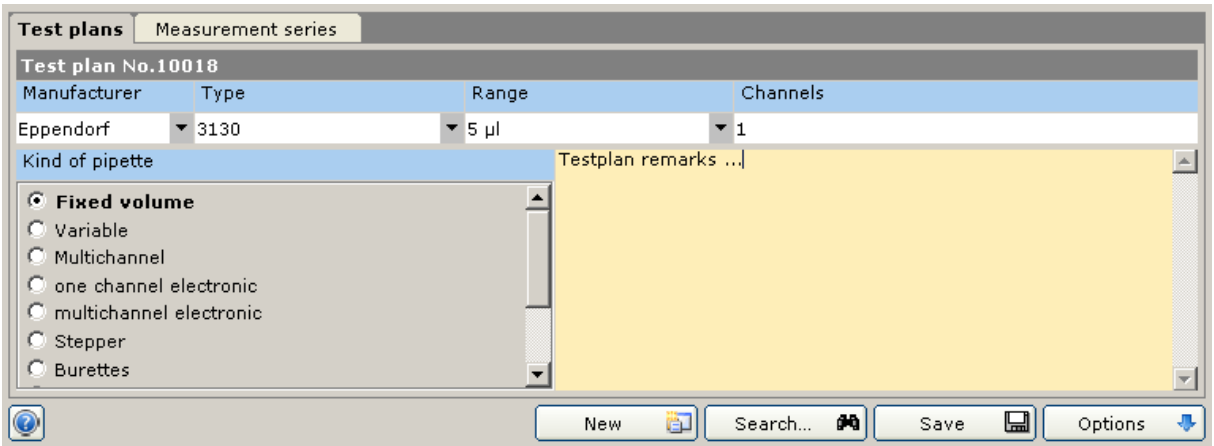
A test plan exists in the database for each type of pipette. This test plan includes the thresholds for incorrectness and imprecision for the pipette as specified by the manufacturer.

The predefines test plans cannot be changed or deleted. You can always create your own test plans.



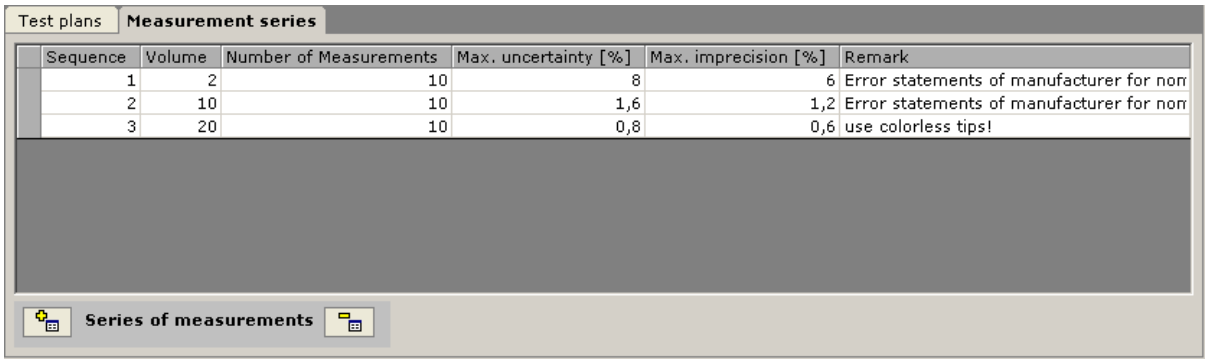
9.1 The Test plan tab

You can see the main data on the selected pipette type here. You can only make changes to test plans you have created.



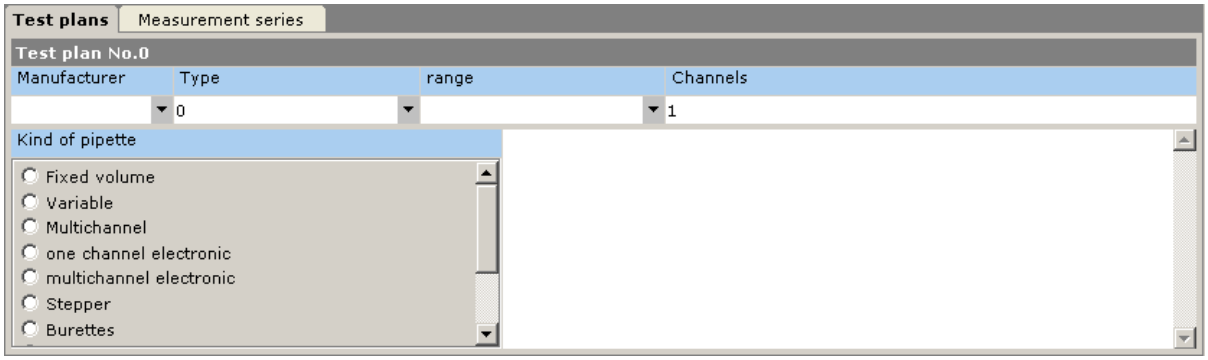
9.2 The Measurement series tab

Shows the measurement series. You can only make changes to test plans you have created.


Test plans
Measurement series
Sequence
Volume
Number of Measurements
Max. uncertainty [%]
Max. imprecision [%]
Remark
1 2 10 8 6 Error statements of manufacturer for non
2 10 10 1,6 1,2 Error statements of manufacturer for non
3 20 10 0,8 0,6 use colorless tips!
Series of measurements

9.3 How is a new test plan created?

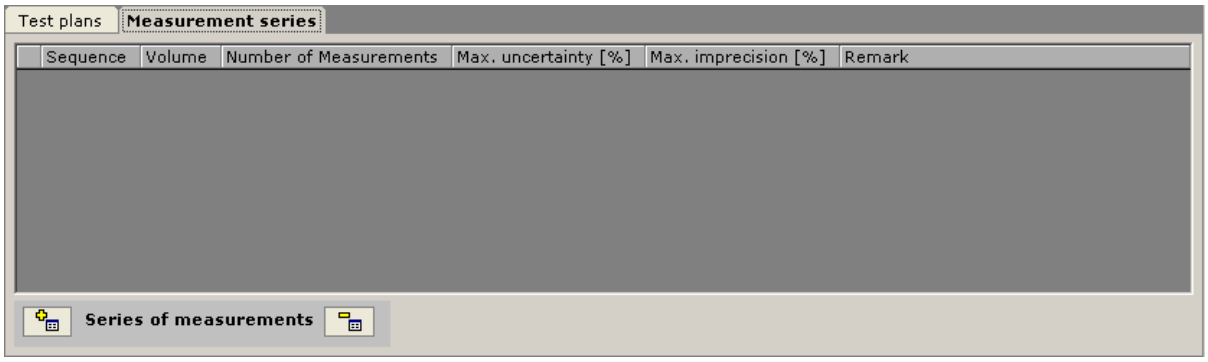
The New button opens the **Test plan** tab with blank fields so that you can enter a new type of pipette.



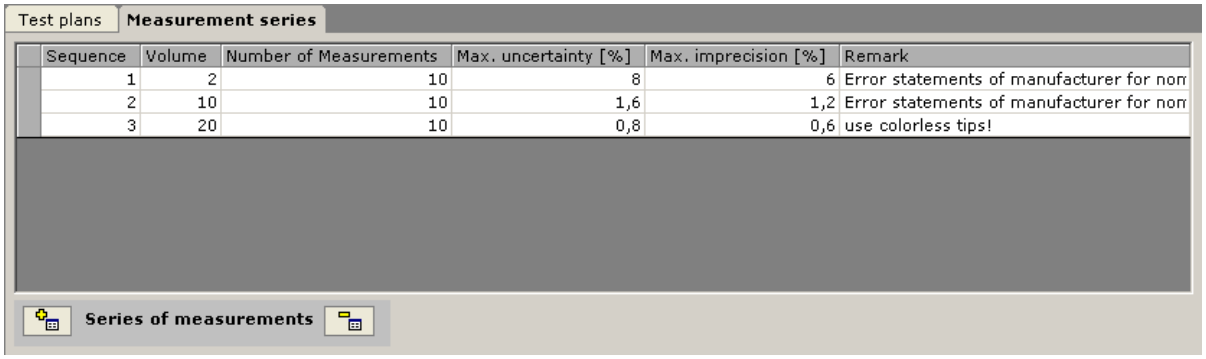
Select the pipette type first before you determine the **Manufacturer**, **Type** and **Range**.

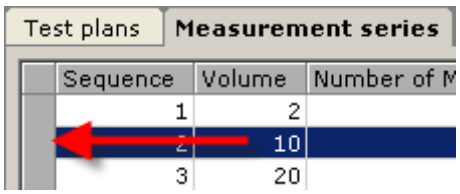
Note: If you enter new values for a *Manufacturer, Type* or *Range*, and do not select from the list using , this entry will be available to you by selecting using the next time you create a test plan.

Then switch to the **Measurement series** tab and enter a new measurement series.



To add to a measurement series, click on the button. You will then be able to enter the *Number of measurements, Max. uncertainty, Max. imprecision* and a *Remark* for the measurement series.


Test plans
Measurement series
Sequence
Volume
Number of Measurements
Max. uncertainty [%]
Max. imprecision [%]
Remark
1 2 10 8 6 Error statements of manufacturer for non
2 10 10 1,6 1,2 Error statements of manufacturer for non
3 20 10 0,8 0,6 use colorless tips!
Series of measurements

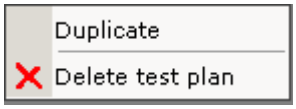


To delete a measurement series, highlight the relevant line by clicking on it and then click on the button to delete the highlighted measurement series.

Note: This function is only available if you have selected a test plan which you created yourself.

The

button allows you to copy and delete test plans.



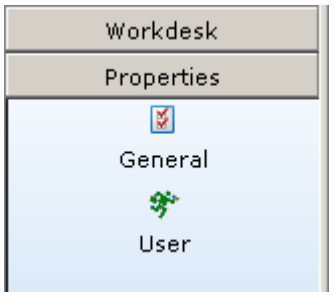
The test plan copied in this way is an exact duplicate of the currently selected test plan which forms the basis for a self-created test plan.

With **Delete test plan** you will remove a self-created test plan from the database.

Note: Predefined test plans cannot be removed.

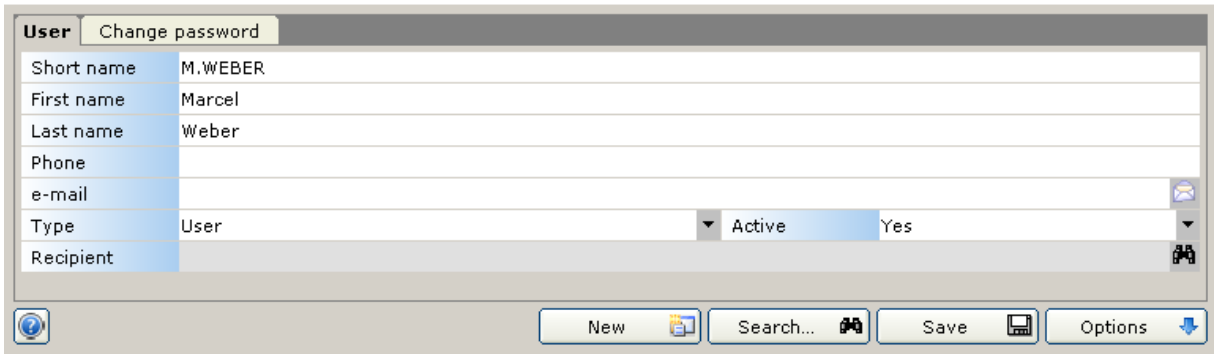
10 What settings can be made?

In the Settings menu bar you can define general system settings for Pipetto and manage your users.



10.1 What is the structure of user management?

The form for user management has exactly the same structure as the other forms.



To edit a user, select it so that it is displayed for editing.

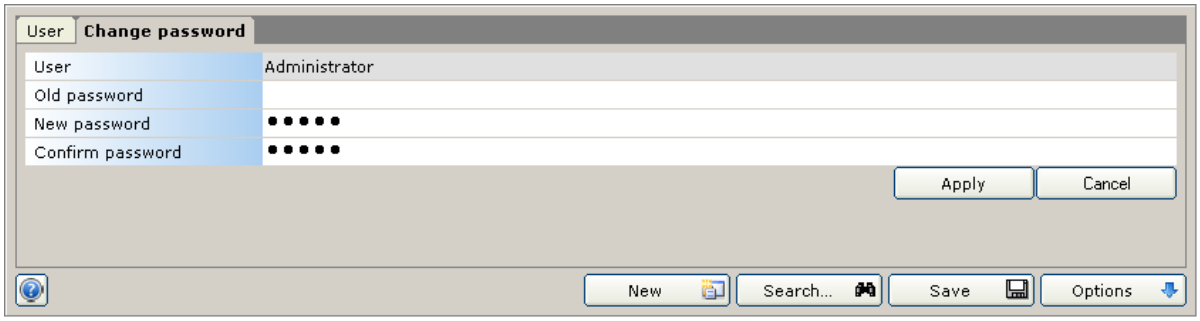
The **Short name** field contains the login name.

In the **Type** field it is determined whether the user is an *Administrator* or a normal *User.*

Note: Only administrators can change passwords.

The setting in the **Active** field determines whether the user is active or inactive. This setting is not implemented in Pipetto at present.

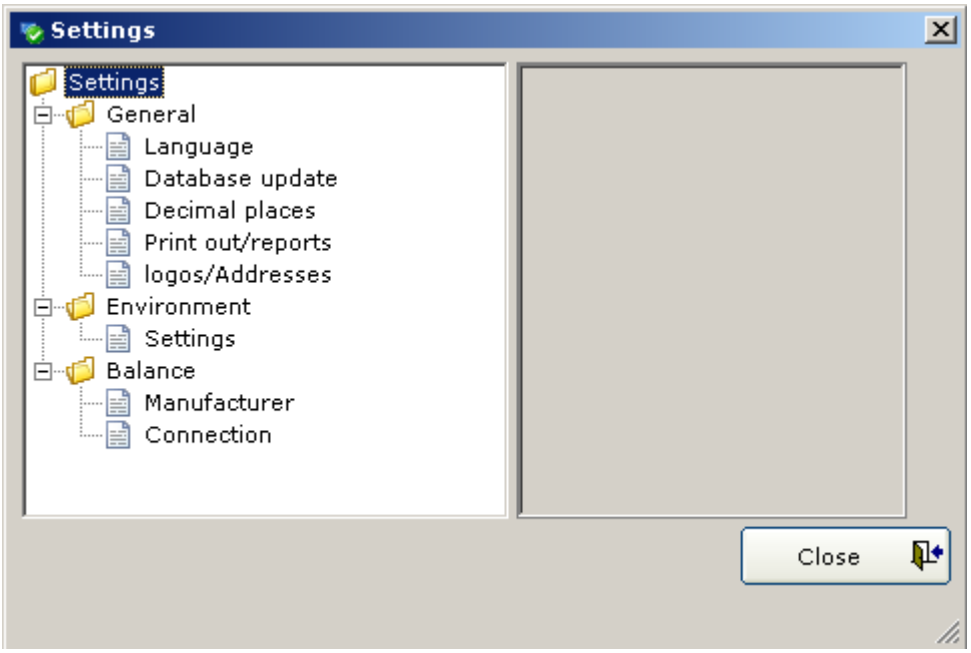
You must switch to the **Change password** tab to assign, change or create new passwords.



Note: The option to create a user is connected to the license. You require a license with multi-user administration for this.

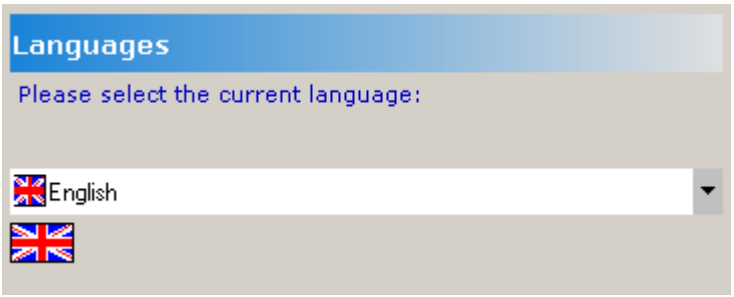
10.2 What are the general settings?

Here you can configure general settings for Pipetto.

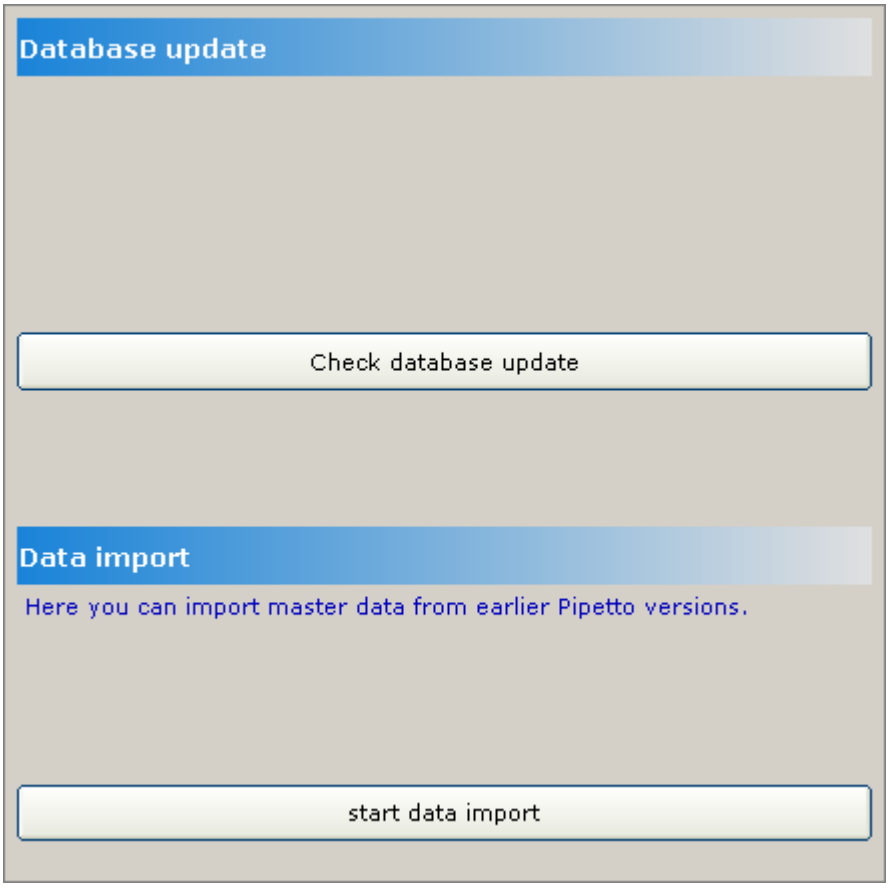


10.2.1 Language

Select the language in which the user interface of the Pipetto programme is to appear.



10.2.2 Database update


Database update
Check database update
Data import
Here you can import master data from earlier Pipetto versions.
start data import

Check database update

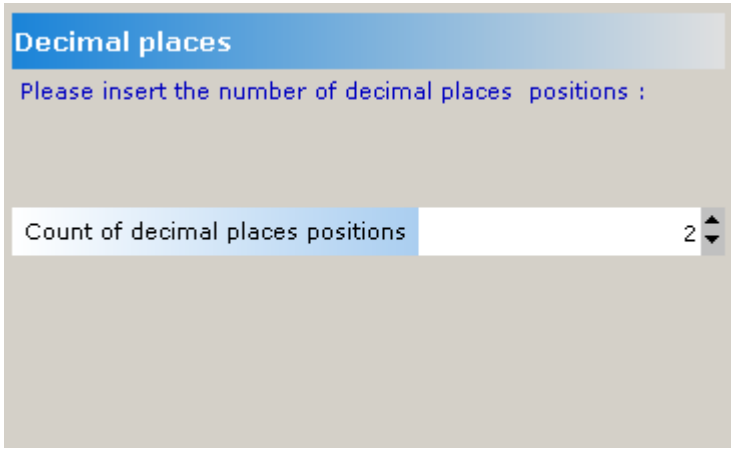
Checks the current database for different criteria. The check is useful if you have transferred a database from another version 3 Pipetto programme (e.g. after updating the Pipetto programme or when using an alternative database).
The components which have not been updated yet are displayed in red in the open dialogue box. These are updated by clicking on **OK** and you can reverse the update using **Cancel** (not recommended).

Start data import
If you have used version 2 of the Pipetto programme previously you can transfer the relevant data to the new Pipetto program here. A separate program is started here in which you can select the fields and data sets.

Note: A license is required for the import tool

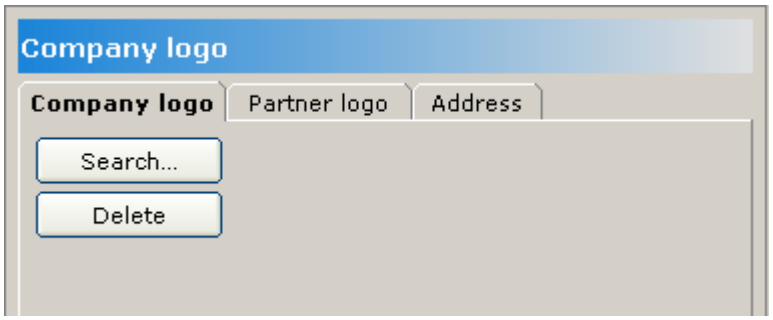
10.2.3 Decimal places

The number of decimal places relates to the presentation of measurement values in all views and printouts for the Pipetto programme. Internally, the measurement values are saved to the highest degree of accuracy, regardless of this setting.



10.2.4 Logos/Addresses

You can customize the layout of the measurement protocol so that a company logo, partner logo and/or an address is printed with it.

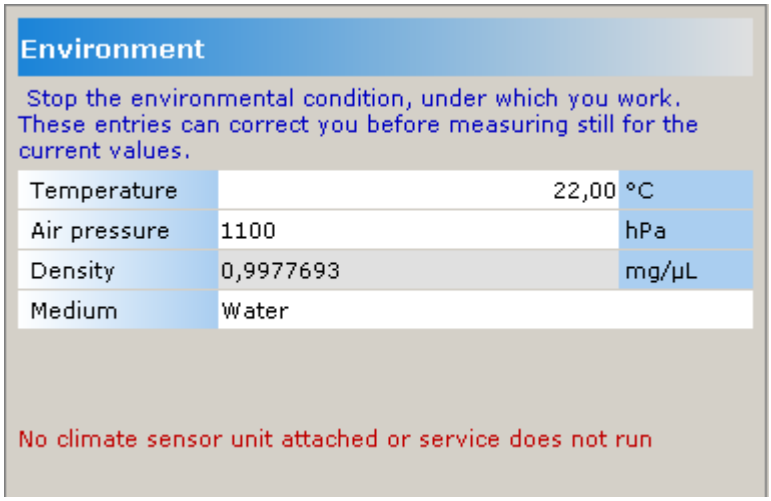


A logo, whether it be a company or partner logo, can be any image file which you select on the relevant tab using **Search.** If you do not want the logo to appear in future, you can remove it again using **Delete**.

You can select the address displayed from the database using the **...** button (top right in the address field).

Note: Changes to the logos or addresses relate to all newly created measurement protocols. Existing measurement protocols retain the logos and addresses set to date.

10.2.5 Environment settings



Temperature, barometric pressure

The default setting for environmental conditions at your measuring point.

If no PCOM climate module is connected to the computer (only in demo versions), enter the climate values here which normally prevail at your measuring point. You can change these values before each calibration.

Medium, density

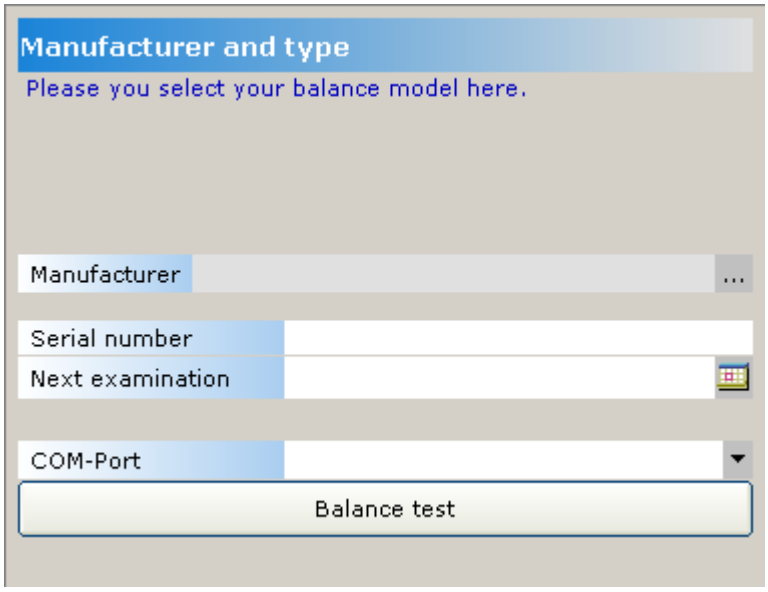
The default setting is bidistilled water with a density of 0.9977693 mg/µl. You can set another calibration medium if required.

10.2.6 Balance

Here you can set up the balance for use with Pipetto.

Manufacturer

You can enter the data on the balance to be used on this page.



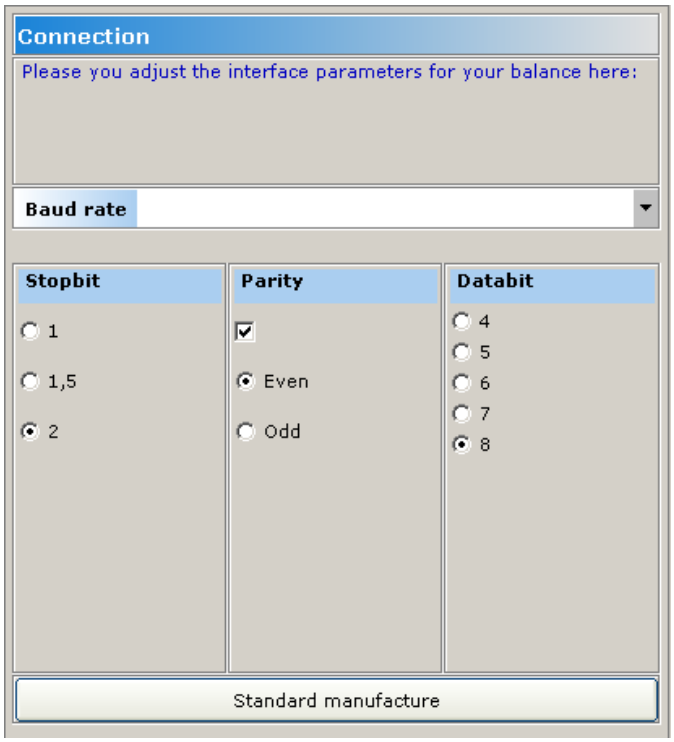
Using the ... button, select a model from the list and enter the serial number of the balance in the **Serial number** field and the date for the next balance test in the **Next test** field. You can enter the date for the next test using the calendar, which you can access via the calendar button on the right-hand side.
In the **COM-Port** field, select the interface to which the balance is connected via a suitable cable.

By clicking on the Balance test button, the connection to the balance is tested and, where necessary, acknowledgement is provided that the communication between the computer and the balance is successful.
The test may last up to 30 seconds. If no connection is established in this time, an error message will be displayed. In this case, check that the **Model** and the **COM-**

Port are set correctly. You may need to make modifications on the **Connection** settings page.

Connection

The settings on this page are set automatically if you have selected a balance model on the **Model** settings page. Generally you do not need to make any other changes. If the communication parameters on the balance have been changed you can make the relevant changes here.



Restore default settings

Resets the communication parameters on this page for the balance to the default values.

11 What is a Mandator?

A mandator is a unit within an IT accounting system which is closed under commercial law, organizationally and with regard to data technology. Managing various mandator enables accounting of several (legally independent) companies in the program. The term client has become commonplace because tax consultants originally always tended to carry out IT-supported accounting for their mandators, whereby the customers were referred to as clients.

Setting up several clients is sensible in order to:

- manage the data of various companies.
- manage corporate divisions (branches, offices) of the same company separately.
- create test clients for training purposes.

12 What is the Z factor?

The weight supplied by the scales in g is converted to µl using the Z factor. In accordance with ISO8655, the Z factor refers to the density of water at 20°C.

13 How can you work with bar codes?

Pipetto allows you to attach any popular bar code scanner to the system using a keyboard loop-through.

This should make searching for pipettes easier. To this end a bar code with the appropriate inventory number of the pipette should be attached to the pipette. If you have now opened a search dialogue and then scan the bar code on the pipette, the corresponding pipette is searched for in the database and displayed.

It can also be used for an inventory of new pipettes.

14 Annex A

Meas. Report

Testing according to	: ISO 8655 Quick-Check	Validation according t	**: Manufacturer-quotated specifications**
Manufacturer	**: Eppendorf**	Kind of Pipette	**: Reference 4910**
Volume Range	**: 0.5 - 10 µl**	Device-ID Nr.	**: 104**
Serial No.	**: ddddd**		
on duty at	**: HI-TEC Support**		

Test plan - No. **: 20**

measurement series 1	measured volume 1.00 ul	Number ofmeasured values : 4

1,23 1,55 1,01 (1,83) 1,00

	Actual values		Nominal/Limiting values		Status
Average value	**1.20 ul**		**1.00 ul**		
Max. uncertainty	**19,92 (d) [%]**	±	**2,50 (d) [%]**		**not Ok**
Max. imprecision	**21.41 (Vk) [%]**	<=	**1.80 (Vk) [%]**		**not Ok**
Comment:					

measurement series 2	measured volume 5.00 ul	Number ofmeasured values : 4

5,01 5,01 5,01 (5,01) 2,00

	Actual values		Nominal/Limiting values		Status
Average value	**4,26 µl**		**5,00 µl**		
Max. uncertainty	**-14.88 (d) [%]**	±	**1.50 (d) [%]**		**not Ok**
Max. imprecision	**35.29 (Vk) [%]**	<=	**0.80 (Vk) [%]**		**not Ok**
Comment:					

measurement series 3	measured volume 10,00 µl	Number ofmeasured values : 4

10,01 10,01 10,01 10,01

	Actual values		Nominal/Limiting values		Status
Average value	**10,01 µl**		**10,00 µl**		
Max. uncertainty	**0.14 (d) [%]**	±	**1.00 (d) [%]**		**OK**
Max. imprecision	**0.00 (Vk) [%]**	<=	**0.40 (Vk) [%]**		**OK**
Comment:					

Comment:

Temperature:	10,0 °C	Air pressure:	999,0 hPa	bidestilliertes Aqua
Density:	0,999699 mg/µl		Factor of correction Z:	1,001400 µl/mg
Balance used:	----------			
Serial No.				
Calibrated by	Administrator	Signature		
Print date :	20.07.2006			
Calibration date :	18.07.2006 14:53:00	Signature		

Caption (...) deleted values

Version: 1.0.15

CityBike Darmstadt

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- Page 1 -

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